THE
VETERINARY RECORD.

The Official Journal of the National Veterinary Medical Association of Great Britain and Ireland, Limited.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 25. JUNE 20, 1925. VOL. 5.

Notes on Parasites in 1924.

By A. W. NOEL PILLERS, Liverpool.

During last year a number of specimens were examined for members of the N.V.M.A. The following is a brief account of some of them :—

FUNGI. From a litter of kittens affected with favus in Lancashire a species of *Achorion* was obtained. It is generally stated by French authors that the common species of felines is *A. quinckeanum* of the mouse, but it is possible that some cases are due to *A. schönleini* of man. They are distinguished by their cultural characters.

PROTOZOA. Of the coccidia *Eimeria arloingi* occurred in Lancashire goats, *E. zurni* in the ox in Wilts., and *E. stiedæ* in rabbits from Berkshire. *Babesiadivergens* was found in bovine redwater in Montgomery. In a previous note of this kind the importance of bovine hæmaturia simulating the form described by continental authors was commented upon. Practitioners in Wales appear to encounter numerous cases of this disease.

CESTODA. Larval cestodes included *Cysticercus tenuicollis* from the goat. (Uganda), *C. pisiformis* from the rabbit (Berks.), *Cœnurus serialis* from the hare (Mont.), and *C. cerebralis* from a sheep in Cornwall. Last year (notes on Parasites during 1923, *Vet. Record*, vol. iv., p. 122) it was mentioned that there was considerable confusion with regard to the specificy of adult tapeworms in ruminants. Since then G. Theiler (On the classification of the Cestode Genus *Moniezia* Blanchard 1891. *Ann. of Trop. Med. and Par.*, vol. xviii., p. 109) has revised the group. She came to the conclusion that there are only four species in cattle and sheep, viz.: *M. alba*, *M. benedeni* (=*planissima*), *M. expansa* and *M. trigonocephala*. The reasons for retaining the last species do not seem very weighty in view of the ease with which others have been sunk. Accepting this author's views *M. expansa* occurred in lambs (Mont.), *M. benedeni* in a Lancashire cow, and *M. alba* in a cow in the last mentioned county and in sheep in Devon. *Cittotænia pectinata* was found in rabbits, *Anoplocephala perfoliata* in horses, and *Tœnia serrata* in a fox in Montgomery. *T. saginata* from man, and *Dipylidium caninum* from a dog, were examined from Lancashire.

NEMATODA. *Belascaris vulpis* was reported from a fox farm in Rosshire. *B. marginata* occurred in dogs from several areas. According to Stiles and Hassal (The Determination of Generic types and a list of Roundworm Genera with their Original type species, *U.S. Dept. of Agric., B. A. I. Bull.* No. 79, 1905, p. 150) the correct name for this species on grounds of priority is, unfortunately, *Toxocara canis*, which is likely to lead to confusion with *Toxascaris*, a genus which contains the other common ascarid of the dog. *Passalurus ambigua* was common in wild rabbits in Montgomery. *Dictyocaulus viviparus* was reported from calves in the same county. Large specimens of *Syngamus trachealis* was found in Lancashire turkeys *Strongylus vulgaris* and *S. edentatus* occurred in horses in Montgomery, and the latter also in Cumberland. *Cylicostomum insigne* was found in horses in several counties (Lancs., Ross., and Wilts.). It has now been established that the form described long ago by Cobbold as *Trichonema arcuata* is, as he stated, a larvæ form, of the genus, which became *Cylicostomum* of Raillet in 1901. There is, therefore, another unfortunate change round to *Trichonema* for the generic name of "red worms," Le Roux (Helminthes collected from Equines in Edinburgh and London—*Journal of Helminthology*, London, vol. ii., 1924, p. 115) states that *Strongylus tetracanthus* of Mehlis was really *a nomen nudum* as it was possible to recognise more than one species in his description. It therefore appears that Looss was wrong in applying this name to the commonest form encountered in Egypt. Le Roux has cited *Trichonema longibursatum*, Yorke and Macfie as the type species. The specific name of *tetracanthus*, for years a landmark in veterinary literature, apparently therefore disappears from our nomenclature, Looss' species becoming *T. ægyptiacum*, Raillet 1923. *Cooperia oncophora* was found in cattle in Lancs., *Trichuris discolor* (E. L. Taylor, Notes on Some Nematodes in the Museum of the Liverpool School of Tropical Medicine: *Ann. Trop. Med. and Par.*, vol. xviii., 1924, p. 617) occurred in cattle in the same county. Others were found later in sheep from Radnor and Montgomery and in cattle in the latter place. *Trichuris ovis* the common ruminant whip worm, was forwarded from cattle in Montgomery.

ACARINA. *Demodex canis* occurred on dogs in Devon, Hants., Lancs., and Middlesex. *Ixodes ricinus* was common on cattle, and *I. hexagonus* on dogs and ferrets in Montgomery. Other species from this district were *Sarcoptes suis* (pig), *Cnemidocoptes mutans* (scaly-leg fowls), and *Chorioptes equi* (horse). On two occasions damaged specimens of a non-parasitic mite *Tarsonemus sp* were found in scrapings from dogs in Lancashire. Two female

Linguatula serrata were found in the nasal cavity of a bull bitch in the same county (*vide Veterinary Journal*, vol. lxxxiii., 1925, p. 126).

INSECTA. The only insects examined were (i.) a number of rat-tailed maggots—the larvæ of the fly *Eristalis tenax*, which were found in the dung channel of a cowshed, and were thought to have been voided by a cow in Essex, and (ii.) *Lucilia sericata* larvæ from the shin of sheep in Montgomeryshire.

GENERAL. Negative examinations were chiefly of fæces for parasitic worm ova, shin scrapings for mange mites and blood films for *Babesia*.

SUMMARY OF SPECIES MENTIONED.

	Name.	Host.	Locality.
FUNGI	*Achorion sp*	Cat	Lancs.
PROTOZOA	*Eimeria arloingi*	Goat	Lancs.
	E. zurni	Ox	Wilts.
	E. stiedæ	Rabbit	Berks.
	Babesiadivergens	Ox	Mont.
CESTODA	*Cysticercus tenuicollis*	Goat	Uganda
	C. pisiformis	Rabbit	Berks.
	Cœnurus serialis	Hare	Mont.
	C. cerebralis	Sheep	Cornwall
	Moniezia expansa	Sheep	Mont.
	M. benedeni	Ox	Lancs.
	M. alba	Ox, Sheep	Lancs, Devon
	Cittotænia pectinata	Rabbit	Mont.
	Anoplocephala perfoliata	Horse	Mont.
	Tænia serrata	Fox	Mont.
	T. saginata	Man	Lancs.
	Dipylidium caninum	Dog	Lancs.
NEMATODA	*Belascaris vulpis*	Fox	Ross
	B. marginata	Dog	Lancs.
	Passalurus ambigua	Rabbit	Mont.
	Dictyocaulus vivipara	Ox	Mont.
	Syngamus trachealis	Turkey	Lancs.
	Strongylus vulgaris	Horse	Mont.
	S. edentatus	Horse	Cum. and Mont.
	Cylicostomum insigne	Horse	Lancs, Ross, Wilts.
	Cooperia oncophora	Ox	Lancs.
	Trichuris ovis	Ox	Montgomery
	T. discolor	Ox, Sheep	Lancs, Radnor, Mont.
ACARINA	*Demodex canis*	Dog	Devon, Hants, Lancs. & Mdlsx.
	Ixodes ricinus	Ox	Mont.
	I. hexagonus	Dog, Ferret	Mont.
	Sarcoptes suis	Pig	Mont.
	Cnemidocoptes mutans	Fowl	Mont.
	Chorioptes equi	Horse	Mont.
	Tarsonemus sp.	Dog	Lancs.
	Linguatula serrata	Dog	Lancs.
INSECTA	*Eristalis tenax*	—	Essex
	Lucilia sericata	Sheep	Mont.

Frank Garnett Memorial Fund.

SECOND LIST OF SUBSCRIBERS.

	£	s.	d.
Amount brought forward from first list	166	18	0
F. T. Trewin	2	2	0
E. W. Baker	1	1	0
W. Dotching	1	1	0
Wm. Ferguson	1	1	0
Hy. Gray	1	1	0
R. Hudson	1	1	0
W. W. Lang	1	1	0
Lawson and Wright	1	1	0
E. C. Lloyd	1	1	0
L. W. Wynn Lloyd	1	1	0
J. C. Minett	1	1	0
D. C. Patrick	1	1	0
M. A. Murphy	1	0	0
J. Beattie	0	10	6

(*Continued at foot of next column.*)

The Value of Collaboration between the Medical and Veterinary Professions for the Eradication of Anthrax and Tuberculosis.*

By FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E., President of the Comparative Medicine Section of the Royal Society of Medicine.

When I received from your President the honour of an invitation to address the Surrey Branch of the British Medical Association, I was not aware that I should have the valuable collaboration, in opening the discussion, of such a well-known expert on tuberculosis as Dr. Nathan Raw; and for this reason I am going to ask your permission to deviate slightly from the title originally selected and to ask you to confine your discussion, in the short time at our disposal this evening, to two diseases, viz., anthrax and tuberculosis. Both of these are of equal importance to you as medical men, to us as veterinarians, and also to the general public; for scarcely a day passes without the lay press reporting illnesses or deaths from anthrax, either in man or beast; and the terrible toll taken by tuberculosis is as much in the mind of the public as it is in that of all branches of medicine.

Animal diseases and human diseases have much in common, and so long as there exist groups of ailments communicable from one to the other, so long shall we have a bond which will stimulate us to work together for the common good in order to stamp out or otherwise eradicate them from our midst.

That the collaboration of the veterinarian with the medical man can do this is well illustrated by taking rabies as the example; for when once a country has stamped out rabies from its dogs and dog tribe inhabitants, the eradication of this dread disease from the category of human ailments which the medical man is called upon to treat is accomplished. Probably in Great Britain at the present time there are not 200 medical practitioners out of the whole 30,000 on the Register, who have ever seen a case of human rabies; and, thanks to the stern measures taken by the advice of the veterinary department of the Ministry of

(*Continued from previous column.*)

	£	s.	d.
R. Cockburn	0	10	6
A. R. Forsyth	0	10	6
L. W. Heelis	0	10	6
T. F. Hogben	0	10	6
H. C. Rockett	0	10	6
S. E. Sampson	0	10	6
W. S. Stevens	0	10	6
H. L. Torrance	0	10	6
Wm. Fowle	0	5	0
R. W. Hall	0	5	0
W. Peirson	0	5	0
Total	£187	0	6

* Read before the Surrey Branch of the British Medical Association, held at the Surbiton Hospital, November 11th 1924.

Agriculture, there are certainly not more than this number of Veterinarians who have ever seen a case of rabies in an animal.

Naturally, as the *fors et origo* is an animal, the duty of stamping it out at its root must rest on the veterinary side of Public Health administration, and this, you must admit, has been dealt with very effectually. One great advantage which we, as veterinary administrators, possess over the human branch, is that we can painlessly and humanely destroy, or otherwise drastically deal with, our incurables (or others whose lives must be painlessly eliminated) in order to give "the greatest good to the greatest number." The "stamping out" process is often adopted on grounds of economy as well as on grounds of public safety—the present method of dealing with foot-and-mouth disease being a good instance of this.

Rabies, then, is a typical illustration of a disease of mutual interest which we are happy to be able to say has been prevented in mankind from becoming indigenous in Great Britain by the aid and collaboration of the veterinary profession.

Glanders, too, is another equally apt illustration of the good work which can be done by loyal co-operation. Whereas only so recently as less than twenty-five years ago the numbers of horses destroyed for this disease in the London area alone almost reached two thousand in a single year, the Ministry of Agriculture returns up to the present only give one outbreak in the whole of Great Britain, and in that only one horse was destroyed as suffering from this disease.

There is reason to hope that this year will see glanders (like its fellow horror and menace to human life, rabies) relegated to the category of diseases which the students of both human and veterinary medicine can only study (in so far as Great Britain is concerned) from text-book descriptions and never from real life.

They are two of the most fatal and terrible diseases with which mankind can possibly be affected. Each is transmitted to man originally only through the agency of an infected animal; this being diagnosable and preventable in those animals only by the skilled and trained veterinarian.

With these diseases, members of the veterinary profession are bound to occupy the front trenches, and if they do this effectually one cannot but realise the great responsibility which they take upon their shoulders in the loyal collaboration they give to their medical *confrères*; whose patients are, in this way, spared from the chance of becoming infected with two such loathsome diseases.

The public should realise that every disease of animals successfully stamped out means a certain financial loss to each individual veterinarian; and you know, too, that you, our medical colleagues, are appreciating more each year the help which we can give you in your efforts to eradicate disease.

These are two diseases to which the old adage "Prevention is better than cure" particularly applies, and so long as we work loyally together, and the laws of the land are properly respected, rabies and glanders will never regain a footing in this country.

This leads me up to the two diseases which I have selected for discussion this evening, *viz.*, anthrax and tuberculosis—and I propose to deal with the former first, because anthrax is again entirely a disease of animal origin and therefore it should be dealt with in the first instance by the veterinary surgeon.

Anthrax.

If we of the veterinary profession could carry out a safe and sure method of prevention against anthrax in animals, and the legal authorities of all countries were able to institute and enforce strict measures against infection from animals and animal products, anthrax would, in a few years, be as effectually dealt with as rabies and glanders; and be practically non-existent, in man at any rate.

The difficulties, however, to be overcome, are not quite of the same kind, as the ruminant tribe, which are the chief source of the disease, furnish us with many more utility products than do the dog and horse. They furnish us particularly, with food, hides, hair, wool, and bone manure for fertilising the land; and, as you know, all these things are essential and in every day use. We must not forget, too, the longevity of the spores of the anthrax bacilli, whose vitality it is so difficult to destroy that land where the carcases of animals have been buried remains a source of suspicion for many years.

Sir John Moore, in a paper which he recently read before the Medicine Section of the Royal Society of Medicine, drew particular attention to this fact and illustrated it by some incidents which occurred whilst he was Senior Veterinary Officer in the Meerut Division of the Army in India; telling us of certain localities or pieces of ground which were so anthrax infected that the grass could never be made use of for feeding purposes; and before the system of compulsory burning of carcases was instituted in England, it was a generally-recognised thing that wheverer anthrax carcases were buried the ground on the top and for some distance around had to be securely fenced in so that animals could not possibly graze over it. Absolute destruction by burning, which is now compulsory in this country, appears to be the only safe way of dealing with the carcase.

During the past few years, the professional and lay press have at frequent intervals had articles on this subject; and, as you know, at the International Labour Congress held in Geneva in 1921, an International Committee was specially appointed to deal with this question, the following being the chief headings into which they were deputed to enquire:—

1.—The problem of the disinfection of wool and hairs infected with anthrax spores in all its bearings, and to report thereon to the governing body of the International Labour Office, in time for consideration by the 1923 International Labour Conference.

2.—The practice and effective methods of preventing infection among flocks.

3.—The possibilities of dealing with infection by anthrax from hides, skins, and other material.

The difficulty was to effectually destroy the spores without spoiling the material—and this equally applied to wool, hair, hides and bone manure—which are the chief sources of infection from abroad. Infection from sources in this and other highly civilized countries can to a large extent be controlled by legal measures; which, if only the people who have to handle animals and their carcase products will carry them out, can be made effectually preventive. Anthrax in man, obtained from the handling of the carcase of an animal which has died of this disease, is well known of course, as is also the death of animals from contact with the product of another which has died of this disease. According to statistics which have been prepared by the Ministry of Agriculture, the highest proportion of the cases appeared to get their infection from artificial feeding stuffs or manure. It is the difficulty of dealing with the imported feeding stuffs, such as cotton and linseed cake, to disinfect them thoroughly, without destroying their nutritive properties, which has to be overcome. Up to the present the ingenuity of man has not been sufficient to devise a plan which can be said to be absolutely effective in this direction, and unfortunately the same applies to the disinfection of imported bone manure. India, Egypt and the countries of the East are especial offenders in this matter of exporting contaminated material, and the ideal plan would be, if it were possible, to disinfect such material at the port of export instead of attempting to do it here after there has been the risk of contamination of the ships provided for its transport.

As regards wool and hair, I understand from enquiries made that the Experimental Disinfection Station which was set up at Liverpool and through which it is compulsory for these products to enter this country, has proved a great success, and the beneficial effects of the formaldehyde treatment to which anthrax-infected wool is there subjected has done very much to do away with the danger of infection to the human workers in this product. This Liverpool station, which was erected at a cost of over £100,000, and commenced work in July, 1921, is capable of turning out some six million pounds of clean wool annually, and it is equally applicable for the disinfection of horsehair, so that a very great improvement has been made during the past two or three years towards minimising the risks which man now runs from what was once considered an absolutely fatal disease.

Sclavo's Serum, the sheet anchor in human treatment, is unreliable for animals, and both in horses and cattle this disease still holds its own as one of the most rapidly fatal for the patients of the veterinarian of all the microbial diseases.

It is practically always through animals or animal products that anthrax reaches man, so that its eradication from the category of animal diseases means automatically its eradication from the diseases to which man is liable—a further proof of the necessity for close colloboration between the workers in the two branches of medicine—the human and the veterinary.

TUBERCULOSIS.

With regard to the second disease which I want to bring up for discussion this evening, as being one in which the two branches of medicine are especially fitted for collaboration, I could not possibly fix upon one which is more ideal than that of tuberculosis. To medical men and veterinarians alike, it is one of the most important and devastating diseases of the day, and when one reads authoritative statements that no less than 85 per cent. of the cases of tuberculosis of the glands of the neck occurring in children are of bovine origin, that over 10,000 children die annually from drinking tuberculous milk, and that we have fully 1,000,000 tuberculous cattle in Great Britain, it makes one wonder why the utmost limit of scientific procedure is not put into action without delay. It is over the question of the supply of clean milk that the veterinarian can particularly help the medical man, for with a tubercle-free milk supply one will at once do away with the deaths from tuberculosis of bovine origin, and it is surely time that a move should be made to enforce that milk, when sold, should be clean and free from tubercle. At the present moment, except in certain cities, there is practically no veterinary inspection of cows and cowsheds; and even if a case is detected in which a cow has a tuberculous udder and is giving tuberculous milk, there is no legal compulsion for the slaughter of that animal. All that it is necessary for the farmer to do is to get rid of it from his cowshed, and this he has the power to do, if unscrupulous, by selling it to a neighbour or in the open market.

At a combined meeting of the Royal Society of Medicine and the Central Veterinary Society in March, 1922, the following resolution, on the proposition of Sir John M'Fadyean, the distinguished head of the Royal Veterinary College, was unanimously passed; and if it is not asking too much I would like the same resolution to be brought forward for your consideration at the end of this meeting:—

> That the prevalence of Tuberculosis in cattle in this country continues to be a serious menace to the health of human beings, and that to counteract this danger, the re-introduction of the Animals Tuberculosis Order, which was suspended in 1914, is urgently needed.

The same resolution has recently been passed and sent up to the Ministerial authorities by theNational Veterinary Medical Association, and also by a considerable number of its branches. Under this order it was compulsory for an animal with a tuberculous udder to be destroyed and compensation paid to the owner, thus giving him some inducement to report such cases. The destruction of every tuberculous cow in the country at the present time would be impracticable from a financial point of view, but with the re-establishment of the Animals Tuberculosis Order (which was suspended in 1914) it would be possible in time to prevent a very great deal of this

troublesome disease in children by eradicating it at its source. At any rate we should get rid of the actual animals which were at the moment supplying poisonous milk; and if we only saved by this means 10,000 human lives annually, and the misery which such an illness entails, it would more than compensate for all the costs; as money ought not to count where human life is at stake. Here is an instance where collaboration between the veterinarian, who would inspect the animal population and the products of the cow, could help this medical *confrére* in his efforts to eradicate what is universally admitted to be the greatest scourge of the day. Having done this part by mutually working together, it would then rest with us to see that this bovine scourge never again got the upper hand and was relegated to the same position which is now held by glanders and rabies.

In a paper which I read before the Section of Pathology at the annual meeting of the British Medical Association at Glasgow in July, 1922, I drew attention to a method of immunization of calves which was introduced to the veterinary profession by Dr. Nathan Raw, who was at that time the President of the Tuberculosis Society of Great Britain and Ireland. In the *Veterinary Journal* for 1921, an article was published, giving the details for the use of a vaccine which was prepared from attenuated cultures of the tubercle bacilli, and it was suggested that the first dose should be given when the calf was a week old, and a second dose a fortnight later. In the present month's issue of the *Veterinary Journal*,* Dr. Nathan Raw has given a further article on this subject with details of the results in a pedigree herd, in which it has been tested during the past two years on every calf which was born, about 140 in all. He states that these calves have been tested regularly since with Pasteur's Tuberculin and with hardly any exception they have all passed successfully. The owner goes on to say that "this is in marked contrast to what our former experience has been when reactions were fairly numerous," completing his statement with the paragraph:—

"I am therefore a strong believer in the efficacy of its treatment and I am very grateful to you for having introduced it."

Only this evening I have received for publication still further confirmation of the immunizing value of this vaccine from a well-known veterinary practitioner in this neighbourhood, Mr. Arthur Payne, F.R.C.V.S., of Weybridge, who writes as follows:—

I am now able to give you a few preliminary notes on the results following the hypodermic injection of Tubercle Immunizing Vaccine R. into calves born on a farm where I first tested the cows in November, 1921, and obtained 50 per cent. of reactors. Two of these gave temperatures of 107, and three of over 106. The reactors were isolated and disposed of, the remainder of the herd being tested every six months. In April, 1923 we still had 15 per cent. of reactors, in October, 1923, 10 per cent.; in April, 1924, 5 per cent.; and in October, 1924, nil.

I first used the Tubercle Immunizing Vaccine R. in February, 1923, and thereafter every calf born on the farm received a dose a week after birth and a second dose two weeks later. Twenty-seven calves born on the farm since February, 1923 were tested (hypodermic and ophthalmic) with material obtained from Sir John M'Fadyean at the Royal Veterinary College.

The test in October, 1924, on eighty animals gave negative results in every case. No animals were allowed to enter the herd before passing the tuberculin test, and I draw attention to the fact that a fairly high percentage of reactors occurred prior to April, 1924, whilst the use of the vaccine was only commenced in February, 1923; so that any infection which took place must have occurred from the cow-sheds. The inference I draw is that those animals treated with the vaccine were able to resist invasion of their bodies by the tubercle bacillus.

As, however, Dr. Nathan Raw is here to-night, I will leave the elaboration of this important idea to him to explain, for as he says in the concluding paragraph of his article:—

"The question is of such immense importance, both to stockbreeders and to the rising generation of children, that it is our duty to adopt every means possible to stamp out tuberculosis in cattle."

I know that the cost would be great but, given a free hand and the re-introduction of the Tuberculosis Order of 1914, we of the veterinary profession could stamp out udder tuberculosis of cattle in the same way that we have stamped out glanders and rabies; and this would greatly help to counteract tuberculosis of children. If the scheme devised by Dr. Nathan Raw stands the test of time it will be one of the greatest boons ever conferred upon the agriculturist and breeder and, through agriculture to mankind; as if further tests prove it to be effectual it has the two great merits of not being costly and of attacking the disease at its very source.

There are many more instances which, did time permit, could be brought forward as coming into the category of "Mutual interest," and each might form the framework for valuable discussion. Certain skin diseases, diseases of meat, to mention only two groups or examples.

These, however, had better be left to be discussed another evening and introduced by specialists in these branches; for veterinary medicine, like that of man, has become so subdivided that no man attempts to be a specialist in all; and we, like yourselves, have our specialists, especially in regard to milk and meat inspection.

At the termination of the meeting the following resolution (which was originally brought forward in March, 1922 at a combined meeting of the Royal Society of Medicine and the Central Veterinary Society by Sir John M'Fadyean) was unanimously passed:—

> That the prevalence of Tuberculosis in cattle in this country continues to be a serious menace to the health of human beings, and that to counteract this danger, the re-introduction of the Animals Tuberculosis Order, which was suspended in 1914, is urgently needed.

The resolution was proposed by Dr. Carver of Surbiton and seconded by Dr. Goodman of Kingston, being passed unanimously.

*November, 1924.

Foreign Bodies in the Abomasum of Young Ruminants.*

By A. Leslie, Class "D," Royal "Dick" Veterinary College, Edinburgh.

The subject of this paper was suggested to me during the past vacation, when I had the opportunity of assisting at an operation on a valuable Shorthorn calf to relieve such a condition. Later, suggestion became fact, when further research—into literature—revealed a paucity of comprehensive information on the ailment in both text books and veterinary journals. It may be urged, however, that "hairball," or "woolball," are complaints of little importance, but, apart altogether from the sufferings which they bring upon the animals afflicted, I would proffer to you their economic significance to the breeder, especially the breeder of pure, highly-prized stock; and of those who may be inclined to regard the condition as one undeserving of their attention or their surgical skill, I would ask the question—is such an attitude worthy of any member of the profession?

That foreign bodies could, and did, become lodged in the abomasum was recognised at least eighty years ago, for in Vol. XII. of the *Veterinarian* we find the following:—"In the abomasum are found, not infrequently, brown, yellow or red bezoars, with a soft, velvety coating and composed of a mixture of wool, mucus and earthy matter. They seem quite harmless and are considered by the ignorant as of value for charms. Youatt mentions a popular error in France that they cause rapid wasting and death, and were bought from butchers for the felonious purpose of throwing them before the sheep of an obnoxious owner. Such an error was easily disposed of by the demonstration that if thrown before sheep, the animals will not eat them, and that if they did, the rumen and not the abomasum would be the stomach into which they would pass."

Ætiology.—(1) *In Calves.*—The condition is commoner in those herds in which the calves are allowed to suckle the dams only at certain hours throughout the day. During the remainder of the time the animals become the victims of enforced idleness and proceed to chew hay, straw and other material indigestible to them. Hand-fed calves are frequently affected as a result of irregular feeding with consequent depraved appetite.

Lice infestation of the body is a not uncommon cause, since the animal in its endeavour to relieve irritation licks the affected part and so ingests considerable quantities of hair. It is noteworthy, however, that hairball, etc., is comparatively rare in calves which accompany the dams during the whole day.

(2) *In Lambs.*—All lambs are open to the condition, but especially those of ewes whose milk yield is low, or which have been fed poorly during the winter; also when there is a considerable thickness of wool on the flanks and around the udders of the ewes at parturition.

Causes.—The wool-eating habit is, in reality, *a symptom of indigestion*, the actual cause of the condition being pica. Under such conditions, therefore, access to hair, wool, fibrous straw, hay and binder twine can have only one result, namely, those materials are eaten by the animal and the condition which we are describing is ultimately produced.

Physiology of Accumulation of Foreign Body.—At birth the rumen and reticulum are empty and contracted upon themselves, and in this condition they remain for a variable period—nine to twenty-one days before rumination commences. During this period the young ruminant (the calf and the lamb) is nourished only by the milk of the dam which passes directly into the abomasum via the œsophageal canal of the omasum. The rumen and reticulum commence to function when the animal begins feeding on solid food.

If, during the period of inactivity of the first and second stomachs, the young should by some mischance ingest any roughage, the latter accumulates in most cases in the abomasum, unfortunately for good, until removed by surgical means. In some cases the material may remain in the abomasum for a considerable time without causing the animal any inconvenience, in others, characteristic symptoms may become evident at once. The nature of the complaint varies with the material ingested—thus, in calves, it is most acute when binder-twine has been taken up; in lambs, when sand is present.

As has already been noted, the presence of the foreign body in the abomasum causes an acute irritation of the mucosa, which manifests itself in a depraved appetite. As a result, the animal will eat anything—sand, straw, hay, etc. Such material on gaining the abomasum comes under the influence of the rotatory movement of that organ, and this tends to collect round the foreign body as nucleus. Hence the end result is usually a rounded, indigestible, irritant mass.

Symptoms.—These may be classified as: (1) *Dyspeptic*; (2) *Inflammatory.*

(1) *Dyspeptic.*—These are the symptoms of an ordinary dyspepsia and may be enumerated thus:—

(*a*) Dullness.
(*b*) Unthriftiness.
(*c*) Loss of appetite.
(*d*) Tucked-up abdomen.
(*e*) Irregular movement of the bowels.
(*f*) Usually no temperature, etc.

It may be here noted that in sheep, among which observation is less particular, the foregoing symptoms are frequently unnoticed. Duration of these symptoms—two to four days.

(2) *Inflammatory.*—These are manifest at a later stage and persist on an average two to ten days, depending on the nature of the foreign body. Such symptoms are:—

(*a*) Temperature up to 106° or more (normal about 103°).
(*b*) Heart accelerated and pulse wiry.
(*c*) Characteristic cough, reflex from the stomach.

* Paper presented to the "Dick" College Clinique Club at Edinburgh on May 20th, 1925.

(*d*) Vomition—food escaping through the nose.

(*e*) Grinding of teeth.

(*f*) The head is turned to the flank. This is a helpful symptom, but may be somewhat long in manifesting itself.

(*g*) Breathing is accelerated and somewhat characteristic. One respiration follows on top of the other so quickly that it gives the appearance of a double respiration, not unlike that of "broken wind." Expiration is also accompanied by a grunt.

(*h*) Epileptiform convulsions, due to the peripheral irritation, viz., the abomasitis are, of some significance. At first only one or two convulsions may occur per day and of short duration; soon, however, they become more frequent and more prolonged. Later the animal becomes emaciated, paralysis occurs as a result of a toxæmia, and death finally supervenes.

AUTOPSY.—(1) Emaciation; fevered carcase. (2) Local lesion—acute abomasitis. Viscus may contain fluid, straw, hay, wool, sand, bindertwine, etc., in rounded masses.

DIAGNOSIS.—Depends on:

(1) Lack of response to simple treatment for dyspepsia.
(2) Characteristic so-called "broken wind" breathing, with grunt.
(3) High temperature and wiry pulse.
(4) Cough.
(5) Vomition.
(6) Pain and an appreciable amount of heat over abomasum.
(7) Epileptiform convulsions (almost diagnostic).

PROGNOSIS.—Prognosis favourable if the case be seen early, especially if the dyspeptic symptoms are observed.

TREATMENT.—*Treatment may be* (1) Preventive; (2) Surgical.

(1) *Preventive Treatment*:—

(*a*) *In Lambs.*—Shepherds should be made to pick all pieces of wool from nets and pens, and to remove superfluous wool from the ewe's udders at parturition. Overcrowding in confined spaces should be strenuously avoided. The ewes should be given good and generous feed to stimulate the flow of milk. Where the milk yield is low through lack of proper feed, that deficiency should be made good by supplying the lambs with easily digested concentrates.

(*b*) *In Calves.*—Regular feeding should be enforced. If straw is allowed, it should not be rank, and care must be taken that it is free from binder-twine. With modern methods of threshing, removal of the twine binding the corn-sheaves is not nearly so thorough as formerly. Salt licks are beneficial, but some objection may be raised to the use of salt in the pure state, hence we would suggest the following mixture:—Salt, 5; sod. bicarb., 3; chalk, 1; Ca phosph, 1 (parts). Infestation by lice should be prevented, and where calves are not with the dams during the whole time, frequent grooming should be practised.

(2) *Surgical Treatment.*—Before proceeding to a description of the technique of the actual operation, let me briefly recapitulate the major points of the regional anatomy. This is, I think, of so exceptional importance where the actual operation is concerned, that I feel I am warranted in making what is, doubtless, to some a rather unnecessary digression. In the newly-born calf, the rumen and reticulum are together about half the size of the abomasum; in ten or twelve weeks, however, the ratio is reversed. During this time the omasum appears to be contracted and functionless.

The ventral or greater curvature of the abomasum is convex and rests on the abdominal wall from the xiphoid cartilage of the sternum to about the ventral part of the last (right) intercostal space. The anterior extremity forms a round, blind sac which lies against the reticulum. A few inches back from the pylorus is a constriction which marks off the pyloric portion from the fundus. The pyloric portion of the abomasum is attached by the lesser omentum to the visceral surface of the liver. A small area of the anterior part of the right face of the rumen is adherent to the adjacent surface of the abomasum. The greater part of the ventral curvature of the omasum is attached by connective tissue to the dorsal face of the abomasum.

The liver in the newly-born calf is relatively much larger than in the adult, and, moreover, bears a distinct impression made by the abomasum. Later, as the omasum and reticulum increase in size, the abomasum looses its contact with the liver. The abomasum of the sheep is relatively larger and longer than that of the ox, and its anterior portion lies against the liver.

It will be noted, therefore, that the abomasum is somewhat firmly attached to the adjacent viscera, an arrangement which not infrequently occasions some difficulty in withdrawing the viscus from the peritoneal cavity. It is also important to note that the position of the abomasum varies with the development of the other "stomachs."

OPERATIVE TECHNIQUE.—*Anæsthesia.*—To obtain the best results, a local anæsthetic should be employed. Numerous cases treated by a general anæsthetic, have failed, *post-mortem* examination revealing that the cause of death was not the operation itself, but pneumonia resulting from the chloroform anæsthesia. Morphine administered by hypodermic injection would undoubtedly be a useful adjunct to the local anæsthetic. It may be mentioned here, that shepherds frequently perform this operation successfully without either a general or local anæsthetic. The operation should be done at once. If convulsions be manifest, the operation should be performed immediately after the first or second, because, if left until later, there is a great risk of the animal being unable to withstand the shock of the operation as a result of its weakened condition. The animal is placed on a table or similar erection and held on its back by two or three men. The site of the incision is washed with soap and water, shaved and

antiseptisized. The anæsthetic used should be non-toxic and injected deeply into the region without penetrating into the peritoneal cavity. After a period, which will vary with the anæsthetic employed, the first incision is made. This is about 4in. long, and is situate about half an inch to the right of the median line, and about one inch posterior to the xiphoid cartilage of the sternum. The skin, subcutaneous tissues and muscles are first cut through, then the peritoneum. In this region there is very little hæmorrhage because of the absence of any big vessels. Some difficulty may at first be experienced in locating the abomasum, and trouble may be occasioned by the liver falling over on to that organ. To obviate this, the hindquarters should be raised a little above the level of the head.

If diagnosis be correct, manipulation of the abomasum will reveal the presence of the foreign body or bodies, which appear to the touch as fairly firm masses. The organ is now drawn gradually towards the incision, and a small portion withdrawn from the peritoneal cavity. Before incising into the viscus, the area around is packed with antiseptisized gauze to prevent any ingesta from gaining entrance into the abdominal cavity. The animal is then turned gently on its side, towards the operator, so that when the incision into the stomach wall is made, any fluid which may be contained in the organ will flow clear of the operating field. The advantage of having the animal held on, rather than strapped to, the operating table is now obvious.

The incision into the fundus of the stomach should be about three inches long, that is, slightly less than that through the abdominal wall. The fingers are then inserted into the viscus, and an endeavour is made to remove the foreign material either with forceps or some similar instrument. Should the mass be of large dimensions, it will have to be removed piece by piece. It is of paramount importance that care should be taken to ensure complete removal of all the solid ingesta as, not infrequently, some ingesta is found—*post-mortem*—as a plug projecting through the pyloric sphincter. Furthermore, if the remaining fluid contain sand or gritty material, such should be completely evacuated, as it would continue to irritate the already acutely inflamed mucosæ.

The edges of the incision are now mopped with a mild antiseptic to remove any particles of ingesta, etc., and are drawn together with Lembert's sutures. The parietal surface is smeared with some mild non-irritating ointment such as Vetoid (P. D. and Co.). The organ is now released, and by giving the patient a few lateral shakes, its normal position will be resumed. The muscles and peritoneum are stitched as one and antiseptisized as was the stomach. Lastly, the skin is sutured and the surface painted with Tr. Benzoin Co., etc.

But the course of treatment, gentlemen, does not end here; indeed, too great care cannot be exercised for a few days afterwards. Immediately after the operation, a hypodermic injection of camphor is advisable, and about five to six hours later, one cupful of equal parts of warm milk and water, together with a raw egg should be given. This should be repeated three times during the first day. Along with the milk and eggs a teaspoonful of the following mixture has produced astonishing results in relieving the abomasitis:—Liq. bismuthi, ℥j.; pepsin, grs. ij.; Ext. opii liq., ♏ivss.; Spts. chloroformi, ♏v.; Ac. hydroscyan. B.P., ♏. ij; Tr. nucis. vom., ♏. v.

After-treatment consists in dusting the wound once or twice daily with an antiseptic powder. The animal should be made comfortable and warm; plenty of fresh air is indispensable. Much of the success of the operation depends upon resting the acutely inflamed abomasum, and for that purpose the animal should be fed *little but often*. Care should be taken when drenching because of the weakened state of the patient. After the second or third day, the milk and egg diet should be increased, and a little cod liver oil should be added. Some few days later, recovery will be practically complete, and the animal may be allowed to return to the dam.

In conclusion, gentlemen, I wish to take this opportunity of recording my thanks to Mr. John Brown, F.R.C.V.S., Invergordon, for the helpful hints which I have received from him during the composition of this paper; and to yourselves I would tender my thanks for the kind interest and patient forbearance with which you have received it.

Gold Treatment of Tuberculosis.

"Our previous references[1] to Professor Holger Moellgaard's new method of treating tuberculosis by an inorganic compound of gold and sodium, together with an antidotal serum, may now be supplemented by an account of two papers appearing in recent issues of the Danish medical journal *Ugeskrift for Laeger*.[2] The first of these, by Professor Moellgaard, deals with the experimental basis of the treatment. His investigations, he says, were inspired by the observation made by Koch, and published as long ago as 1890, that a salt of gold inhibits the growth of tubercle bacilli in a solution as weak as one in a million. Turning to the researches of Feldt and Spies, and the gold preparation, 'krysolgan,' introduced by them in 1917, the author points out that the successes achieved by this drug dwindled as the dose. After describing the properties and chemical formula of his own preparation, 'sanocrysin,' and stating that it materially checks the growth of tubercle bacilli in a solution of one in a million and completely arrests it in a solution of 1 in 100,000, he gives a detailed account of experiments with such animals as guinea-pigs. Subcutaneous injections of tubercle bacilli were given, and the site of inoculation was then infiltrated with sanocrysin. All the control guinea-pigs developed generalised tuberculosis, whereas some of the animals treated by sanocrysin remained free. While the treatment of a tuberculous animal with sanocrysin provoked a violent

[1] BRITISH MEDICAL JOURNAL, November 8th, 1924, p. 870; November 22nd, 1924, p. 961; January 24th, 1925, p. 176.
[2] *Ugeskrift for Laeger*, December 25th, 1924, p. 1035; January 1st, 1925, p. 1.

reaction similar to, and probably identical with, the shock caused by a large dose of tuberculin given to a tuberculous animal, reaction could be avoided or overcome by an injection of serum obtained from a tuberculous animal, which appeared to neutralise the toxins generated by the interaction of sanocrysin with tubercle bacilli in the body. In other words, passive immunity was conferred on the tuberculous animals, which were thus protected from the otherwise fatal action of sanocrysin. These observations suggest that the action of sanocrysin depends on its capacity to destroy tubercle bacilli in the body. The reaction of the tuberculous animal possessing natural or passive immunity to sanocrysin differed greatly from the reaction of the tuberculous animal not possessing such immunity; the immunised animal reacted with fever, a rash, loss of weight, and diarrhœa, while the non-immunised animal reacted with a fall of temperature, albuminuria, myocarditis, and œdema of the lungs. Therapeutic doses of sanocrysin given to a non-tuberculous animal had no ill effects, whereas the same doses given to tuberculous animals gave rise to all the reactions that would be expected of a process entailing the wholesale destruction of tubercle bacilli in the tissues. After treatment with sanocrysin had been continued for some time and clinical recovery had been achieved, the ex-tuberculous animals ceased to react to sanocrysin. The second paper, by Dr. K. Secher, describes early clinical tests with sanocrysin. In this it is stated that by November, 1923, Moellgaard's experimental work with sanocrysin in tuberculous and non-tuberculous animals had proceeded so far that clinical tests on human beings had become justifiable. Since then Secher has given sanocrysin to a considerable number of hospital patients, but the choice of patient and the dose of the drug were at first faulty from lack of experience. The three principal reactions—fever, rash, and albuminuria—acted as guides to the conduct of each case. The temperature in particular was a valuable index to the response of the tuberculous body to the intravenous injections of sanocrysin. As the tests proceeded it became more and more evident that cases in which difficulties were anticipated required preliminary treatment to avoid the albuminuria which was liable to ensue after injections of sanocrysin. Serum from a tuberculous animal was given by intramuscular injection in doses of 20 to 40 c.cm., and proved potent in counteracting the "tuberculin shock" caused by the sanocrysin. It was found advisable to continue the injections till there was no longer any reaction to them. Of nine patients who died, and whose death was directly connected with the treatment, two died from shock, three from Herxheimer's reaction, three from poisoning, with emesis and hiccup, and one from cachexia. Of the twelve slight cases of pulmonary tuberculosis, three of which were sputum-positive, all were discharged as symptom-free, but this was the case with only two of the twenty-one severe cases. All the slight cases, which became symptom-free under treatment, reacted violently, severe erythema being sometimes provoked. With further experience the author has been able to give sanocrysin to patients whom at first he thought unsuitable for it. It seems to be very effective for the chronic fibrotic cases; areas of consolidation in the lungs clear up, râles disappear, and certain patients have been able to return to work. Of three patients suffering from miliary tuberculosis, one was discharged as much improved, and one as cured. Tuberculous pleurisies also responded very satisfactorily; of the twelve cases of acute pleurisy treated, eleven were discharged as symptom-free. The treatment could be given to children provided it was instituted early enough, and Dr. Secher expects that the early treatment of glandular tuberculosis in childhood will avert the development of the later stages of tuberculosis. But the difficulties and the dangers of the treatment render it, for the present at least, suitable only for hospital practice."

British Medical Journal.

The Veterinary Record.

20th June, 1925.

PROFESSIONAL NEGLIGENCE.

Two weeks ago we published the *Times* report of the Appeal and Judgment in the case of Rex v. Bateman—a cause of unusual interest, not only on account of the circumstances of the case and the principles involved, but also on account of the brilliance of the defence by Mr. Norman Birkett, K.C., and the clear exposition of the law of negligence in the considered judgment delivered some three months after the hearing by the Lord Chief Justice. It is not likely, though it might well be possible, that a veterinary surgeon would render himself liable to a prosecution for criminal negligence, and of course, he would not be brought up on a charge of manslaughter if he confined his practice to the Veterinary Act. But in the case under review there were many points regarding civil liability for negligence which were mentioned, and which were dealt with fully, both by the judge at the trial (Mr. Justice Shearman) and by the Lord Chief Justice at the Appeal. These points are referred to as chiefly affecting medical men, but they are applicable to veterinary surgeons, and in a measure to all professional men.

If a veterinary surgeon undertakes the treatment of a case, he owes a duty to his client to use diligence, care, knowledge, skill, and caution in administering the treatment. It is not necessary that the treatment should have been undertaken for fee or reward. The law requires also a fair and reasonable standard of care and competence. It is no defence to a charge of professional negligence to prove the possession of sufficient knowledge or diligence in attendance if loss or damage was caused by unskilfulness or carelessness. A professional man (and also a "quack") may be held liable for undertaking a case which he knew, or ought to have known, was beyond his powers. There must be no recklessness either in undertaking a treatment or in the conduct of it.

A veterinary surgeon or doctor who practices, professes skill, because neither is allowed to practice in this country until he has acquired a certain amount of skill; each is bound to show a reasonable amount of professional ability according to the circumstances of the case, and is to be judged on the basis that he is a skilled man. He must not fall below the standard of skill which is the least qualification that any veterinary surgeon or doctor should possess. If there is only a mistake or error of judgment made

there is no liability, but if there is anything short of the average degree of care and competence then there is liability.

These points govern the position of the veterinary surgeon in relation to his duty to his client, and are worthy of special note. If he exercises reasonable care, only undertaking work with which he knows he is competent to deal, and then uses reasonable skill, care, caution and diligence in applying his treatment he will not be held liable for negligence. If he is in doubt as to the correctness of his diagnosis, his method of treatment, or his ability to deal with the case, he can protect himself to a great extent by calling in a brother practitioner as consultant, and thus lessen his individual responsibility. In taking such a step he would be exercising reasonable caution.

It is interesting to us to read in the judgment that the same rules regarding negligence are equally applicable to unqualified as to qualified men. It is no defence for an unqualified man to plead lack of knowledge, incompetence, or lack of skill. He is liable for treating a case, the care of which he had not the knowledge, skill, or competence to undertake. The fact that he is only a "quack," an unqualified man, who has not the status of a professional graduate, is no protection to him. If this fact were known to farmers and others who so frequently employ "quacks," we think there is good reason to believe that many actions for negligence would be undertaken, and that the "quack" would find it more remunerative to endeavour to attain the status of a professional man and share his privileges, since apparently, he already shares his liabilities.

CLINICAL AND CASE REPORTS.

Extra-Uterine Pregnancy with Occlusion of the Bowel.

By R. E. Alexander, M.R.C.V.S.

Subject.—A small female cat, aged two years.

History.—When I was called in the cat appeared dull and listless, with accelerated breathing. She had refused food for several days, and I was informed that she was due to have kittens. There was no evidence of this, however, on palpation, and I learned that on previous occasions she had always experienced "miscarriages," accompanied by considerable debility. The chief symptom was stoppage of the bowels, with complete inability of the stomach to retain anything whatever. Medicine could be kept down by the aid of Chloretone, but when the effect of this wore off the contents of the stomach were immediately expelled. Treatment proved futile and the cat died in a state of semi-coma with sub-normal temperature in a few days.

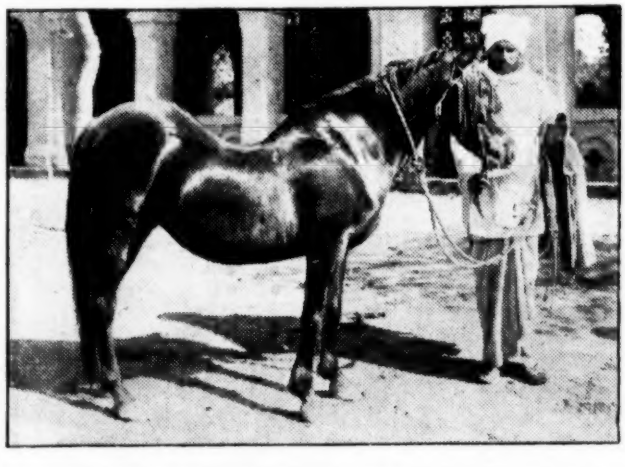
Post-Mortem Findings.—The uterus proved to be empty and the body and horns appeared considerably atrophied. In the region of the right ovary, however, a fœtus was found attached to the peritoneum; and four more were found in the peritoneal cavity situated near the left ovary. These fœtuses were about two inches long, and consisted of leathery membranes filled with semi-solid pus. They were very hard, and the four last mentioned were entangled in a mass round the colon, completely blocking the passage. In front of the occlusion the bowel was ballooned, but behind it appeared thin and cord like. The peritoneum itself appeared in rather a mucous condition, but there was no evidence of peritonitis.

Generally there was anæmia, with collapse of the lungs. The whole length of the alimentary canal was empty.

Conclusions.—It was remarkable that the animal should have lived to such a point that the bowel passage was absolutely closed, as the process must have been gradual. Death took place in a state of marasmus, as there were no signs of septic intoxication.

A Remarkable Conformation.

Professor A. C. Aggarwala, of the Punjab Veterinary College, writes: "Herewith I am enclosing a copy of the photograph of a country bred horse, whose back shows very well marked 'hollowness.' I might add that this defect in conformation well nigh debarred the owner from the use of a proper saddle. Perhaps it would interest the readers if the photograph is reproduced in your esteemed paper."



Some interesting details are given concerning the past year's operations on the Weeting Pig Farm, owned by Mr. J. J. Calder. Large Black sows, which are kept in the open air, were crossed with a Large White boar. The total number of young pigs from this one boar was 1,059, and as the average number of sows in stock was 65.8, this indicates a little over fifteen young pigs per sow per annum. Of the youngsters 39 died before weaning and 99 after weaning, chiefly when between eight and sixteen weeks old, as a result of the very wet winter. There were 862 pigs sold, which brought in a sum of £7,068 12s. 5d.

REVIEW.

[Text Book of Meat Hygiene by Richard Edelmann, Ph. D., fifth revised edition by JOHN R. MOHLER, A.M., V.M.D., Chief, United States Bureau of Animal Industry, and ADOLPH EICHHORN, D.V.S., Director of Veterinary Department, Lederle Antitoxin Laboratories. (London, J. and A. Churchill, 1925. Pp. VI. by 478; 25s.)]

The rapidly succeeding editions of this book are evidence at once of its utility and popularity. Its original teutonic character has been almost completely lost as the result of repeated revisions and additions. It might now fairly be regarded as a treatise on meat inspection as practised in the United States of America in which a summary of the laws relating thereto has been incorporated. To the British reader the Meat Inspection laws of the United States are of interest from a comparative point of view. They bear evidence of full realisation of the need for guarding the health of the public from unwholesome and dangerous meat food and its products, and it is clear that the organisation essential to the accomplishment of this object is well established in America.

The book is conceived on broad lines, and many matters ancillary to meat inspection proper are discussed in considerable detail. The chapters on the production, preparation and conservation of meat, on the disposal of condemned meat, and on the preparation and control of meat food products contain much information which the meat inspector will find of great assistance and value in the performance of his official duties. The student will obtain excellent guidance by a study of the methods and procedure of inspection described, and he will read with profit the discussion on the recognition of the flesh of animals of different species for the purpose of detecting fraudulent substitution.

We would venture to suggest that in future editions of this book, further additions might with advantage be made to those chapters which deal with the diseases of food producing animals. Thus actinobacillosis is a condition of sufficient importance to merit more notice than can be accorded to it in the small space of half a dozen lines. And it may be observed that some of the views expressed in this section are not in accord with British opinion and experience. It cannot, for instance, be accepted that only cattle are susceptible to paratuberculosis (Johnë's Disease). Many records of the occurrence of this disease in other animals are to be found in the literature on the subject. *B. suipestifer* has been demonstrated as the causal organism of food poisoning in man in this country more frequently than any other member of the paratyphoid group and the opinion, apparently accepted by the authors, "That *B. suipestifer*, notwithstanding its relation to the paratyphus bacillus and to the enteritidis group, does not belong to the meat poisoning group, has been established by C. Jœst" must be contradicted. Nor can it be accepted that only in rare instances does food poisoning occur "through contact with the bacilli without the presence of infection in the animal itself." British experience is to the contrary effect—food poisoning is more frequently attributable to the contamination of sound meat from extraneous sources.

Notwithstanding difference of opinion on the above as well as other subjects, the substantial merits of the book remain. The food inspector will find it a valuable work of reference which he will frequently desire to consult. It is well illustrated and the illustrations are good. The work of the publishers merits commendation.

Royal Sanitary Institute Congress.

CONFERENCE OF VETERINARY INSPECTORS.

For the information of readers who are desirous of making arrangements to attend the Conference of Veterinary Inspectors at the Royal Sanitary Institute's forthcoming Conference in Edinburgh, we give below the full programme of papers and discussions at the Conference, which has been forwarded to us by Mr. J. R. Hayhurst, Recording Secretary.

THURSDAY, JULY 23RD.

CONFERENCE OF VETERINARY INSPECTORS.

President.—Lieut.-Col. Gerald Leighton, O.B.E., M.D., D.S.C., F.R.S.E.

Vice-Presidents.—Hugh Begg, F.R.C.V.S., Lieut-Col. J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M. (Vict)., Professor S. H. Gaiger, F.R.C.V.S., M.R.S.I., A. Gofton, F.R.C.V.S., G. Howie, M.R.C.V.S., and Professor A. W. Whitehouse, M.A., M.R.C.V.S., D.V.S.

Recording Secretary.—James. R. Hayhurst, M.R.C.V.S., D.V.S.M. (Vict.).

Hon. Local Secretaries.—J. Howard Jones, O.B.E., M.R.C.V.S., and E. J. H. Sewell, M.R.C.V.S.

1. Address by the President.
2. A paper on "A Uniform System of Milk Inspection," by Lieut-Col. J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M. (Vict.), Manchester. Discussion to be opened by A. M. Trotter, M.R.C.V.S., Glasgow, followed by Judge Harvey, Convener of Public Health Committee, Edinburgh, Dr. Stenhouse Williams, Professor R. G. Linton, M.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh, and W. Kelso.

FRIDAY, JULY 24TH.

3. A paper on "The Problem of the Tuberculous Cow," by A. Gofton, F.R.C.V.S., Edinburgh. Discussion to be opened by W. Brown, B.Sc., M.R.C.V.S., Lecturer on Veterinary Hygiene, University of Aberdeen, followed by J. S. Lloyd, F.R.C.V.S., D.V.S.M. (Vict.), Sheffield, Alderman W. P. Neal, Corporation of London, and E. J. Burndred, M.C., D.V.H., M.R.C.V.S., Blackburn.
4. A paper on "Common Difficulties in Practical Meat Inspection," by J. McAllan, M.A., B.Sc., M.R.C.V.S., Aberdeen. Discussion to be opened by Lieut-Col. T. Dunlop Young, O.B.E., M.R.C.V.S., D.V.S.M., London, followed by J. D. Whitehead, F.R.C.V.S., D.V.S.M. (Vict.), Salford.

In addition to the above programme, a demonstration on the Scottish method of Meat Inspection will be given at the City Abattoir on the first day, by J. Howard Jones, O.B.E., M.R.C.V.S.

Simultaneously a visit of inspection to the slaughter-houses and corporation markets will be arranged.

The Emergency Telephone Services.

The following correspondence is published for the information of members generally, this matter having been considered by the Parliamentary Committee of the Association.

National Veterinary Medical Association.
10 Gray's Inn Square,
London, W.C. 1.
13*th May*, 1925.

"Sir,—It has been brought to the notice of this Association on several occasions that Veterinary Surgeons have not the privilege of the use of the Emergency Telephone Services granted to hospitals and medical men. I shall be greatly obliged if you would favourably consider extending the facilities of this service to the Veterinary Profession, as Veterinary Surgeons are very frequently called upon in cases of great emergency, and though perhaps the life of an animal may not be considered of the same importance as that of a human being, the alleviation of pain and suffering, and in many cases the saving from death, and of financial loss to the owner, afford ample grounds for making a strong claim upon the Public Utility Services.—I am Sir, Your obedient servant, G. H. LIVESEY, General Secretary.

The Controller,
London Telephone Service,
114a Queen Victoria Street, E.C. 4."

London Telephone Service,
144a Queen Victoria Street, E.C. 4.

"Sir,—With reference to your letter of the 13th instant, I beg to inform you that the treatment of faults which develop on subscribers' lines after the Engineers' normal hours of duty has from time to time been carefully considered.

It is regretted that emergency treatment cannot be extended *as a matter of course*, to circuits rented by Veterinary Surgeons, but cases of faults which occur when engineering staff are normally not available are dealt with on their merits, authority for summoning emergency staff being vested in the Traffic Officer who is on duty at the Central Traffic Office (Telephone No. Central 101).

If any member of your Association will communicate, in a case of emergency, with this officer, the case for emergency treatment will, at once, be carefully considered. —I am, Sir, Your obedient servant, W. NAPIER, Deputy Controller.

The General Secretary,
National Veterinary Medical Association,
10 Gray's Inn Square, W.C. 1."

CRUELTY TO A MARE.

Oswald Smith, farmer, of Molescroft Carr, Beverley, and his wife, Emma Smith, were each summoned at the East Riding Police Court at Beverley, recently, for cruelty to a mare by causing her to travel in search of food. Mr. G. S. Williamson prosecuted on behalf of the Hull and East Riding Society for the Prevention of Cruelty to Animals, and Mr. F. Payne defended.

P.C. Martin said that on May 6th he found a brown mare with a foal at foot in a grass field near defendant's house. She was in very poor condition, and was standing on three legs. Her near hind leg was very hot and swollen. When she moved she had great difficulty in putting this leg to the ground, and appeared to be suffering acute pain.

Captain F. Airey, M.R.C.V.S., said the mare had evidently been kicked. One leg was swollen double its natural size. She was in great pain, and it was cruelty to turn her out into a field. She would eat in the stable if she was hungry; he never heard of one that would not.

Captain J. J. Ridley, M.R.C.V.S., for the defence, said he had been treating the mare since the 1st of May, and she was turned out into the grass paddock on his advice. After she was turned out she began to improve straight away.

At this stage the Magistrates expressed a wish to see the animal, and it was fetched in a float.

After inspecting it, the Magistrates decided to convict, and imposed a fine upon the male defendant (against whom there were previous convictions) of £25, and upon the female defendant £15.

DIVISIONAL REPORTS.

Lancashire Division.

ANNUAL MEETING AT MANCHESTER.

The annual meeting of this Division was held at the Grand Hotel, Manchester, on Friday, March 6th, 1925. The President (Mr. J. T. Allen, of Tunstall) occupied the chair, and others present were:—Messrs. Blackhurst, Harrison, Woods, Brittlebank, Holroyd, McKinna, Pillers, Powley, Matthews, Torrance, Wright, White, Whitehead, and J. Spruell. *Visitors*: Messrs. S. H. Slocock, Livesey and Carter.

Apologies from Messrs. Holmes, Dobie, Elam, Sumner, Ball, Noar, Giblin, Jones, Burndred and Mayall.

The minutes of the last annual meeting, published in the *Veterinary Record*, were approved.

A letter from Mr. F. J. Richmond, was read, stating that, as he had removed from the district, he desired to resign his membership. The resignation was accepted with regret.

New Members.—The following were elected members of this Division:—Messrs. T. W. Woodhead (Bowdon), K. D. Dowdham (Liverpool), J. O. Powley (Knaresborough), J. H. Gillespie (Doncaster), N. Woolley (Liverpool), L. A. Watson (Southport), and A. J. Caldwell (Westhoughton).

Treasurer's Report.—The Hon. Treasurer (Mr. A. W. Noel Pillers) presented his annual statement of accounts. On the motion of Mr. WHITEHEAD, seconded by Mr. WRIGHT, the Treasurer's statement was approved.

PRESIDENTIAL ADDRESS.

Mr. ALLEN, Gentlemen,

I thank you most sincerely for the honour you have conferred upon me by appointing me President of this Association. I shall endeavour to do my best to merit the confidence you have placed in me, and hope that when my term of office is ended you will all be satisfied.

I appeal to the members to give me their best support by attending the meetings, by reading a paper on some interesting subject or bringing clinical cases forward, and entering into the discussions.

The social intercourse with fellow practitioners at these meetings, is, to my mind, a great asset, for by exchanging ideas it gives us a wider outlook and prevents us from getting into one groove.

It is usual in a presidential address to refer to some of the progress made by the profession during the past year. It is very gratifying to see the progress our parent Association, the "National," is making and the great attention it gives to every branch of the profession.

The question of Inspectors' fees, etc. is receiving consideration from every point of view, and I have no doubt that soon we shall have a remunerative scale of fees applied to all those districts that are below a certain standard, and which will be satisfactory to everyone. I consider it is the duty of every member

of the profession to join the National Veterinary Medical Association and give it his support.

Sir John Moore's resolution, that a Veterinary Research Council shall be established, is, in my opinion, a step in the right direction, and I am sure will receive the support of the members of this branch.

There has recently been a good deal of discussion on vaccines and serums. My experience of the use of the blackleg and anti-abortion vaccines has been very satisfactory, the blackleg one being almost a specific, whilst the use of the anti-abortion vaccine on a badly infected farm has been very effective. I have used the antistreptococci serum as a preventative of joint-ill in foals, by injecting the mare a week previous to foaling and the foal as soon after birth as possible. No foals were lost after this treatment, but the same mares lost their foals the year previously from joint-ill. I have had varying results from anti-tetanic serum: recovery if the attack was mild, but death if the spasms came on early and severely.

The question of the reintroduction of the Tuberculosis Order of 1914 will be welcomed by us all, and, in conjunction with a Pure Milk Order, would in time eradicate this scourge from our herds.

It is encouraging to see that foot-and-mouth disease is on the wane, and I trust that by the continued vigilance of the Ministry of Agriculture and the watchfulness of the practitioner, we shall soon have the country free.

The increased recognition of our profession by public bodies as inspectors of milk, foodstuffs, dairies and cowsheds, &c., is a sign that our services are appreciated. The post-graduate degrees on these subjects now available will, I have no doubt, be taken up by many of the younger members.

The question of pupilage has been discussed and different opinions given. As one who served a pupilage of three years, I can say that I never regretted it. I should recommend twelve months' pupilage before going to college, with an arrangement to see practice during the vacations. This enables a student to learn the practical side of the profession as well as the art of how to deal with clients, the latter of which is a great essential when in practice on your own.

I thank you for your patient hearing, and hope the remaining portion of the evening will be an enjoyable one for you all.

Colonel BRITTLEBANK said that, as the proposer of his old friend at present in the chair, it gave him great pleasure to move a vote of thanks for his address from the chair that day. He felt sure that when Mr. Allen's term of office was over, the members would be in one accord in acknowledging that they had had a good President. He was confident that the Lancashire Veterinary Medical Association, which had such great traditions, would never regret placing Mr. Allen in the chair, and he had very great pleasure in proposing that vote of thanks.

Mr. WOODS stated that he also had known Mr. Allen for a very long time and had always found him honest, straightforward and a worker. He was sure the Lancashire Veterinary Medical Association honoured itself in putting Mr. Allen in the chair, and he had great pleasure in seconding that vote of thanks.

Mr. Allen, in response, said he wished to thank the proposer and seconder most sincerely for the way they had spoken that afternoon. He was sure he did not deserve it and when his year of office was over he hoped he would not have disgraced the Chair. Anything he could do, although he lived some distance away from Manchester, he would be pleased to do to fill the office to the best of his ability.

THE ANNUAL DINNER.

The dinner was held after the annual meeting. The President (Mr. J. T. Allen, M.R.C.V.S.) was in the chair, and others present were Messrs. Blackhurst, Butters, Edwards, Brittlebank, Harrison, Holroyd, Johnstone, Lindsay, Locke, Lord, Matthews, Pillers, Powley, Spruell, Torrance, Urmson, J. H. White, J. H. Wright, Whitehead and Woods.

The visitors were Messrs. Slocock, Livesey, Ald. J. Jones, Professor W. H. Roberts, Councillor G. F. Bailey, Messrs. Allen, Walker, Mrs. J. T. Allen, Mrs. and Miss Bailey, Mrs. Blackhurst, Mrs. Edwards, Mrs. Brittlebank, Mrs. and Miss Locke, Mrs. Holroyd, Mrs. Powley and Mr. and Mrs. P. Carter.

After the loyal toasts, Councillor G. F. BAILEY, of Stoke-on-Trent, rose to propose the toast to the Royal College of Veterinary Surgeons. He felt it was a great honour to be called upon to propose such an important toast as that, and he derived some satisfaction in proposing it, because the coat of arms of the Royal College of Veterinary Surgeons was copied from the arms of the County Borough of Stoke-on-Trent, although that County Borough had only had the arms for thirteen years. (Laughter.) As a Councillor who had not had much contact with the ramifications of the veterinary profession, he had noticed what a lot the community had to thank that profession for. In Manchester, for instance, one could not fail to see how the milk question had been dealt with. Manchester was a city which any county borough could copy with beneficial results. It was no use talking about the subject of health unless it was thoroughly investigated. There was the subject of milk, which was purveyed under shameful conditions. Those conditions must not be tolerated. He had spoken at meetings of his Council time after time on that subject, but with very little result. Butchers and other foodmongers had to retail their goods in a proper manner and so should the milkman be made to retail his. The machinery for securing a pure milk supply was here. The Royal College of Veterinary Surgeons had, among its members, men who were capable of dealing with that question. Local Authorities should see that bowls and utensils were kept clean and sterilised. The production of Grade "A" milk should be encouraged and, above all, it was everybody's duty to see that the milk was delivered clean. With reference to agriculture and the recent outbreaks of foot-and-mouth disease, Councillor Bailey thought that, had it not been for the Veterinary

Profession, the country would have had a worse condition of affairs than had been passed through. The profession had done the work splendidly and he hoped the worst of the trouble was over. He hoped the lot of the members of the profession would in future be happier. He wished to congratulate the President of the Lancashire Veterinary Medical Association on attaining the position he now held, and said he was sure it was the wish of everyone that he should be happy in his position. He asked the company to rise and drink to the Royal College of Veterinary Surgeons, coupled with the name of Mr. Slocock.

Mr. S. H. Slocock, F.R.C.V.S., President of the Royal College of Veterinary Surgeons, in response, said he felt he was in a proud position to have to reply to the toast to the Royal College of Veterinary Surgeons, especially to such a distinguished gathering as was present that night. It was pleasing to hear a toast given in such a manner as by Councillor Bailey, of Stoke-on-Trent. Mr. Slocock thought that appreciation from the public generally was what was wanted and it was pleasing to hear such a distinguished visitor appreciate the profession and to regard it as essential in the worlds of economy. The profession was not a large one, but it was represented by a number of good men. The College had men all over the country at the present time dealing with the control of food, preventing disease and assisting the agricultural community generally. The Veterinary Surgeon used to be regarded as a man able to relieve the sufferings of animals. That he did, but he also went a step farther: he relieved suffering and also prevented disease. The profession had many departments: the army department, which had existed for many years; the private practitioner; and the municipal department. Most big cities now employed whole-time veterinary surgeons to control the supply of milk and food generally. With reference to the control of food—milk in particular—Mr. Slocock said he was confident that if a veterinary surgeon was put in charge of the milk supply of Stoke-on-Trent, and he was given all power, Councillor Bailey would have the supply he desired. The College had men with special qualifications, who knew both the cowshed and the laboratory side of the question. Moreover, the general practitioner was more than a general practitioner; he was a research worker and bacteriologist, and it was with great pleasure that the growth of research was noticed, especially in this country. It was good to notice the combination of work between the different professions: the medical profession, the scientists, bacteriologists, agriculturists and the veterinary profession all working together for the good of the country and the world. It must not be forgotten that the general practitioner was the man of greatest importance in the upkeep of the profession. Without the general practitioner, the municipal worker would not live long. Without the general practitioner the bacteriologist would not do his work to the best advantage. The veterinary profession had suffered in many ways, and one was in the way that had been specified—the want of recognition from the general public. That day was passing and the profession would soon be on a good footing. He was not referring to the general practitioner at the moment, he happened to be one of them and although they, the general practitioners, had come through some rough times, they looked pretty well on it. The Army Veterinary Corps and the municipal service were getting better remuneration all round, and it was not for him to say if it was due. The profession was, altogether, on the way to prosperity and would continue to prosper by showing its activities to the world in general. Time was when somebody was rude enough to say that the profession was parasitic on agriculture. The veterinary profession was a branch of agriculture working to show the agriculturist how to get the best animals and the best results generally. The older men of the profession could help the younger men and it could be done by practices being opened at certain times for the students. Men could only enter the profession through one portal. A high standard of education was required and maintained and students passed on their merits. It was up to the general practitioners to allow these students to gain some practical experience. Those young men were turned out of the colleges with good scientific knowledge, but that did not necessarily mean they were qualified to take on the business of a town practitioner. Was it to be expected? Everyone made mistakes, he had made a few—and a man at 21 years of age could not be expected to conduct a practice like a man of, say, forty-one years of age. The Council of the Royal College of Veterinary Surgeons was composed of thirty-two members, and all of them had the interests of the profession at heart. Eight members retired this year and some of them stood for re-election, and he appealed to the profession to vote and return the best men and to nominate as many men as possible. A man was elected to the Council for four years, and that was a great advantage, as there was always a continuity of policy. It had been a great pleasure to him to be present that night, and he had met many old friends.

Professor W. H. Roberts, Liverpool, proposed the toast to the National Veterinary Medical Association. It gave him great pleasure to propose that toast because, after the speech of the President of the Royal College of Veterinary Surgeons, one could not help but realise the value of the Association. He noted that much had been said about the profession not being known; he thought that was due to the fact that it did not make itself known. The National Veterinary Medical Association was formed to let the public know there was such a profession. It was only by advertisement that people and the value of their work got known. The medical profession never missed an opportunity of bringing anything before the public that was likely to help, through the newspapers and periodicals, and they were now very important. He saw no reason why the veterinary profession should not be in a similar position. His own profession, chemistry, did what they could to

assist the veterinary profession, but the real work was in the hands of the veterinary profession. He desired to wish the Association and branches every success. He thought that people would try to interfere, but the profession must not stand it. (Hear, hear.) They must keep the Association to the profession. He agreed with the President that the one portal system was the system that paid.

Mr. G. H. LIVESEY, General Secretary of the National Veterinary Medical Association, said that he felt it a great honour to be in a position to respond. He was only sorry that the President of the "National" who could respond more ably than he was not present. The "National" had amply justified its existence during the last few years, and it was mostly due to the excellent spade work done by his predecessors. It was now a prosperous Association, and the balance sheet for 1923 showed excess income over expenditure of £990. That year showed only £3 short of £1,000, and instead of a debt there is a reserve fund of over £1,000. That showed prosperity and increased support. The "National" was engaged on urgent and important work and was now being registered without that objectionable word "Limited." The new Certificate was expected on any day now. The new articles provided for the formation of Standing Committees, which were engaged on important work, especially the Parliamentary Committee. The Parliamentary Committee had on hand first the new Meat Regulations. Councillor Bailey, of Stoke-on-Trent, referred to the necessity for a good milk and meat supply. The Meat Regulations were drafted last year, and they stated that any officer could be appointed for meat inspection, and the "National" claimed that he must be a veterinary surgeon. The Committee were very strong on that point and a protest was lodged. The reply received from the Ministry of Health was not satisfactory, and the words "veterinary surgeon" were still not included. Another protest had been lodged and a deputation would probably wait upon the Minister of Health. He suggested letting the branches having a copy of the letter proposed to be sent. With reference to the Tuberculosis Order, 1914, Mr. Livesey stated that he did not think that there was any doubt that that Order would be re-introduced, but there would have to be a vote on it in the House of Commons. The "National" had drawn up a short statement which would be circulated to the different Societies, who, it was hoped, would bring it before Councils, etc., urging the re-introduction of this Order. With regard to Veterinary Inspectors' fees, that matter had already been taken up, and the Committee dealing with that subject had drawn up a minimum scale, a copy of which would be sent to any veterinary inspector who desired one. It was hoped that this would help those inspectors who were disgracefully paid. In Worcestershire, the veterinary inspector was expected to work half-a-day for half guinea, also, in one county, two guineas were paid for an inspection of a market, and in a neighbouring county 7s. 6d. was paid for the same work. This must be stopped. The National Veterinary Medical Association was holding the annual congress at Cambridge that year and it was hoped to beat last year's congress. The Cambridge authorities had kindly placed one of the colleges at the disposal of the "National," where visitors could reside during the session, and the Vice-Chancellor was going to give an academic reception. At Aberdeen last year, 225 persons were accommodated, and it was hoped to beat that total this year. Although he was working in London, he was Lancashire bred, and he thought London had not got the best brains of the country and that it would be to the advantage of the "National" if more North-country men were seen down there.

The toast to the President of the Association was proposed by Mr. G. H. LOCKE, Manchester, who said he had known Mr. Allen for more years than he cared to remember, and their sons had since gone through college together and qualified together. When he was at college, Jack Allen was one of the most pleasant, quiet and most sincere students, and his sincerity gained him many friends. As he grew older he continued in the same way and he was now one of the most popular men in the Potteries. Mr. Allen had been a member of that Association since 1906—although it was only in the latter years that he had been able to attend the meetings and take more interest in the Society—and in view of that, the members decided to make him President. He hoped Mr. Allen would have health and strength to enable him to carry on the good work he was doing.

Mr. ALLEN, replying, thanked Mr. Locke most cordially for the way in which he had proposed his health. He had always been thankful he had been made a member of that Association in 1906 and was always sorry that he had not been able to take a greater interest at first. Since he had been able to get assistance, he had been able to attend the meetings, and for that reason he had been made President. Realising how well some of his predecessors had carried out their duties, he thought it was a difficult task to occupy the chair of that Association, but he would endeavour to carry out the duties to the best of his ability. Since he had joined the Association he had met more college chums at the meetings than ever before. He noticed Colonel Brittlebank, Mr. Wright and Mr. Whitehead present, who were with him at college. Even at college they would not let him alone, they made him Secretary of the college veterinary association. (Laughter.) He again expressed his thanks for their kind wishes.

The toast to the Guests was proposed in felicitous terms by Mr. A. W. Noel-Pillers, Liverpool; and Alderman Jones, Manchester, suitably replied.

The toast of "The Ladies" was submitted by Mr. H. C. Harrison, Bowdon; Mrs. Brittlebank responding.

Musical items were rendered by Madame Florence Wilson and humorous items by Mr. R. I. Stephenson. Mr. E. J. Cookson accompanied.

JOHN SPRUELL,
Hon. Secretary.

Derbyshire Division.*

A meeting of the Division was held at the Royal Hotel, Derby, on April 21st, 1925. The President (Mr. F. T. Prince) occupied the chair, and there were also present Messrs. Aston, Atkinson, Bagshaw, Briggs, Deville, Heather, McJamieson, Levie, Marrison, McIntyre, and the Hon. Secretary (Capt. O.V. Gunning).

A letter was read from the General Secretary of the N.V.M.A., replying to an enquiry from the Division in respect to fees paid to Insurance Companies. The scale enclosed by the General Secretary was considered satisfactory and the matter was dropped.

Major General Sir J. Moore's resolution regarding the establishment of a Veterinary Research Council was considered and received the unanimous approval of the members present.

Mr. Heather's proposal that members should not, without consulting the practitioner, examine for the R.S.P.C.A., where another practitioner was already in attendance, was considered and all members expressed themselves as being in sympathy with it.

A paper (which appeared last week) was then read by Mr. W. F. Aston, on "The Sex Glands."

Mr. E. Marrison (Blakewell) exhibited a special bar shoe that he had successfully used in cases of horses suffering from navicular disease and contracted heels. The shoe was a plain shoe, slightly thickened at the heels, with a bar which was placed under in such a way that it came in apposition with the bars of the hoof, the point of the frog overlapping about a finger breadth. The whole idea was to give pressure. Before the shoe was applied grooves were made at the heel from coronary band to floor—three on the outside and two on the inside—to allow for expansion. Mr. Marrison spoke of a hunter which was hopelessly lame and considered useless. After ten days' rest the shoe was applied and the horse had been hunted the whole season. In one case of contracted heel, where this particular shoe had been worn some time, the lame foot was found to be one-eighth inch wider than the sound foot. He asked members to give the shoe a trial.

Major T. V. Bagshaw (Uttoxeter) gave an interesting demonstration of his method of chloroforming standing. He said he did not claim anything new, although it might be new to some of the members present. In the first place a strong halter was placed on the colt, then an ordinary plough line was doubled and the middle placed over the brow line and fastened to each side of the halter in such a way that the free ends could be held each side by an attendant.

The chloroform muzzle (a Cox pattern of canvas, reinforced inside with leather) was then applied while the colt was in the loose box, the muzzle going in the mouth so that the lower jaw was underneath. A sponge previously wrung out with hot water and squeezed dry was then soaked with the chloroform. Major Bagshaw emphasised the great advantage gained by first soaking the sponge in hot water. The colt was then lead out of the loose box to a suitable paddock—this could always be done without difficulty. Here he was allowed to go round in a circle until he began to stagger. At this stage a leather collar with adjustable straps, exhibited by Major Bagshaw, was buckled round the neck (ordinary side line method) the ropes passing between the forelegs and from within, outward round the hind pasterns in the usual way.

Major Bagshaw emphasised the ease with which casting could be accomplished by this method. In hot weather staggering took place in two minutes, and the whole operation could be completed in eight minutes. Half an ounce of chloroform was found sufficient for a small colt.

A vote of thanks was accorded to Mr. W. F. Aston for his valuable paper that afternoon. It was generally felt it was a paper that required further perusal in order that it could be discussed properly. It was therefore decided to leave the discussion until the next meeting. Mr. Aston kindly consented to have copies of the paper printed for circulation amongst the members.

The members expressed their appreciation to both Mr. Marrison and Major Bagshaw for their practical contributions.

A vote of thanks to the President terminated a successful meeting.

O. V. Gunning,
Hon. Secretary.

*Received on May 16th.

Eastern Counties Division.

Annual General Meeting.

(*Continued from Page* 495).

Professor Buxton, in continuance of his remarks concerning Sir John Moore's proposition *re* the establishment of a Veterinary Research Council, said:

One wonders whether Sir John's knowledge of the status and powers of the Medical Research Council was similar to that of the existence of the official Research Council. It might perhaps, be well to explain that the Medical Research Council receives a substantial annual grant from the Treasury and that, in addition to making grants to research workers in various institutions, it has its own extensive research Institute—The National Institute for Medical Research at Hampstead. Sir John might have discovered that the Medical Research Council, in its wisdom, refrains from dictating to, or controlling, even its own research workers. Moreover, neither the Medical Research Council nor the medical profession appears to be anxious to include veterinary surgeons in the composition of the Council, *for the better elucidation of human diseases.*

The organisation in connection with grants made for research into animal diseases is, in fact, very similar to that for medical research. Grants made by the Treasury for agricultural research are disbursed by the Development Commission through the Ministry of Agriculture. The portion allocated to veterinary

research is similarly discharged. The Advisory Council consists of the Directors of the research institutes, a well-known helminthologist, and representatives of the Development Commission and Ministry of Agriculture.

The part played by members of the veterinary profession in determining the nature of the investigations which are carried out is, perhaps, far greater than is realised. Speaking for my own Institute—and I have no doubt that a similar state of affairs exists in others—the decision to pursue a certain line of investigation is almost invariably determined by representations made by practitioners. The only person who is in a position to make the final decision is obviously the Director of the Institute.

In short, it would appear that Sir John's resolution merely seeks to set up another body, possessing doubtful powers but with an expensive Secretariat, and for this purpose a sum of £2,500 per annum is to be deducted from the already inadequate grant made for research into animal diseases.

I trust that the Eastern Counties will not find it necessary to express its doubt of the integrity and efficiency of the present representatives and directors of research institutes by supporting this resolution.

The SECRETARY thanked Professor Buxton for explaining the question, and felt that, under the circumstances, it certainly seemed a most unnecessary body to be formed, especially at such an expense; the existing Research Institutes were apparently working quite satisfactorily, and did not require interference from any other source.

Mr. WORTLEY observed that he quite agreed with Professor Buxton, and felt sure that the Ministry of Agriculture would not be over-ridden by such a body.

It was proposed by Mr. H. BUCKINGHAM, seconded by Professor E. B. REYNOLDS that the following resolution be forwarded to the National Veterinary Medical Association:

"That this Society, having thoroughly discussed the resolution of the Western Counties Division, have decided that they are not prepared to support Sir John Moore's resolution."

The Secretary read a letter from Mr. G. T. Matthews. The Secretary said that Mr. Matthews had done a tremendous amount of work for farmers in the Eastern Counties. It so happened that he had just received promotion to one of the highest positions on the permanent staff of the Ministry of Agriculture. They certainly should offer him their congratulations. This suggestion was carried with unanimous approval.

The SECRETARY, dealing with the next place of meeting, pointed out that the Annual Congress of the "National" would begin at Cambridge on the 17th August, 1925, and he felt that it was quite a debatable point as to whether or not they should hold their next meeting in July. It was in their interest, as a branch of the "National," that everyone should turn up there, and he would propose that they should waive their July meeting, and that they should meet in conjunction with the "National," and not in opposition to them.

Mr. TURTILL supported Mr. Shipley's proposal, and, on the the seconding of Professor REYNOLDS, this proposal was carried.

The PRESIDENT proposed that a vote of thanks be accorded Major Heatley for his able demonstration. This was seconded by Professor BUXTON, and unanimously carried.

A hearty vote of thanks to the President for his chairmanship during the past year, and also for consenting to accept the office of President for a further year, concluded the business of the meeting.

The gentlemen present at the meeting were as follows: Colonel W. A. Wood, C.B.E. (in the chair), Messrs. Wortley, H. P. Standley, junr., Kerry, Low, Rattee, Turtill, Barr, Hill, Downe, Tunney, Currie, Bosworth, H. Buckingham, J. Buckingham, Heatley, J. B. Buxton, E. B. Reynolds, and W. Shipley.

W. SHIPLEY,
Hon. Secretary.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest in these columns.

Diary of Events.

July 2nd—R.C.V.S. Annual Dinner, Hotel Victoria.

The results of the Bar Examinations published last week showed the name of Mr. Fred Bullock as top of the first class in the Law of Real Property and Conveyancing. This is the conclusion of Part I. of the Bar Examination and the Law of Real Property is considered to be the most difficult and exacting of all the subjects. Seventy-three candidates were examined, and three took first class honours, and of these three Mr. Bullock is first. This is a great achievement and Gray's Inn, where Mr. Bullock is reading, and of which Inn he is a student, is very proud of him. We in the veterinary profession are also exceedingly proud of Mr. Bullock and congratulate him most heartily on his success. It is the more remarkable a success in that Mr. Bullock has followed his studies in his spare time at home. We know that his spare time can be very little, since all his energies seem to be concentrated on his work as Secretary of the Royal College of Veterinary Surgeons. That he, with such small opportunity for study, should have been able to beat all others, even those who devote the whole of their time to preparation, and are suitably coached, is really most creditable. We wish Mr. Bullock equal success in Part II. of the examination (the final) which will be taken next year.

The Ministry and Foot-and-Mouth Disease.

Addressing a public meeting held at Ripon recently, under the auspices of the North Riding and South Durham Branch of the National Farmers' Union, Mr. H. German (an ex-President of the Union) said that there was not a single farmer in any part of the country but what had benefited from the organisation of the National Farmers' Union in regard to the foot-and-mouth disease question. He wrote to Mr. Wood in regard to foot-and-mouth disease, telling him that the question brooked no delay, and that unless the whole plan of campaign in regard to foot-and-mouth disease was re-planned, and unless the Ministry were re-organised, if they were to have another outbreak they would be in just as hopeless a position as they were in 1922-23. He had a telephone message from Mr. Wood the next day telling him that he had been to the Treasury and the Treasury had agreed to the re-organisation, with the result that so quick had been the action taken by the Ministry in the case of an outbreak of the disease that in no single instance in the last six months had there been any spread of the disease outside a four miles area. He urged them to see to it that they acted as policemen in regard to the disease in their own district, so that if any suspicious case arose they would call in a veterinary surgeon at once.

Export of Horses.

Mr. Wood, Minister of Agriculture (Ripon), replying, in the House of Commons recently, to Mr. Day, said there had been a marked decrease in recent years in the number of horses exported to the Continent, but a slight increase in the number occurred in 1924 as compared with 1922 and 1923. No worn-out horses were allowed to be exported, only sound working horses being passed for shipment by the Ministry's inspectors. General representations urging the prohibition of the export of horses which might be slaughtered on the Continent had been frequently received by his Department. With regard to the question of future legislation he could not anticipate the report of the Departmental Committee which was at present investigating this trade.

Mr. Wood, replying to Mr. H. Williams (Reading, U.), said he understood that the Committee on the export of horses for butchery purposes were now considering their report and he was informed that they hoped to present it at the end of the present month.

Veterinary Service in Skye.

The question of veterinary service in the Outer Isles was discussed at a meeting in Inverness of the Executive Committee of the local authority. The County Clerk said the matter had been before the committee on several occasions, the last time being in July of last year. Since then the Skye Branch of the North of Scotland College of Agriculture had beeen insistent as to the necessity of an adequate veterinary service being provided in that district. What was wanted was a permanent veterinary surgeon to work there. Sir Murdoch MacDonald, M.P. for Inverness-shire, had brought the matter to the notice of the committee in the first instance, suggesting that if the position was represented to the Board of Agriculture the Board might be disposed to give a grant towards the cost. After discussion it was agreed to act on Sir Murdoch's suggestion and apply for a grant from the Board of Agriculture.

At a meeting of Portadown Town Council on June 2nd, Mr. H. C. I. Kelly, veterinary inspector, gave a list of the number of cattle examined in every cowshed visited by him. He said that out of the number of cattle examined up to the present, which were supplying milk to the urban district, 38 per cent. had failed to pass the tuberculin test, which meant that under the local regulations their milk could not be supplied within the urban district.

After considerable discussion it was unanimously agreed that the Ministry of Home Affairs be acquainted with the facts disclosed, and that the veterinary inspector be requested to furnish a recommendation as to how the council should deal with the question of tubercular cattle and the maintenance of the milk supply.

Scientific Research.

Mr. Baldwin, Prime Minister, replying in the House of Commons on May 22nd, to Mr. H. Williams (Reading, U.), said: The Lord President of the Council has no responsibility for insuring adequate co-ordination in respect of the whole of the expenditure for scientific research, which is estimated for 1925-26 to exceed £4,000,000, but the Department of Scientific and Industrial Research and the Medical Research Council, for whose activities the Lord President is responsible, is, so far as the first-named department is concerned, provided with machinery for the co-ordination of the research work of the technical establishments of the fighting Services which has civilian interest, and of certain other Government Departments. The Department has no control over the work of the research establishments maintained by other Government Departments, and has no responsibility in connexion with research undertaken purely for defence purposes. Conferences between representatives of the Department of Scientific and Industrial Research, the Medical Research Council, and the Development Commission are held periodically for the consideration of matters of common interest to these Departments.

Hops and Tuberculosis.

The following letter appeared in the *Western Morning News*, of May 27th:—

"Sir,—Re tuberculosis in pigs at Plymouth. I quite agree with Mr. T. D. Vosper (whom I know has had great experience in the trade) that no Plymouth butcher would sell meat that he would not eat himself.

"The fault is in the feeding. Not only pigs, but bullocks are affected with this disease, and if the hops were used in a good balanced ration, the stalk of which contains lupulin oil, there would be very little room for the tubercle bacillus to take effect and worms would be absolutely eradicated. If you will let farmers and breeders know this you will be fulfilling a great public service.

"H. J. Webber.

"Plymleigh, Aplington Road, Exeter,
May 25th."

It would be interesting to know if any member can confirm this statement regarding hops.

Heavy Fines for the Sale of Tuberculous Meat.

A fine of £20 in each of two charges, with the option of 51 days, was imposed by the Bolton Borough magistrates upon John Roberts, butcher, 139 Fletcher Street, Bolton, for having in his shop two pieces of meat infected with tuberculosis.

Prosecuting, Mr. H. B. Ashford, Deputy Town Clerk, said that on April 24th an inspector found in the ice-box at defendant's shop two pieces of meat, weighing respectively 13½ lb. and 17 lb., both of which were badly affected with tuberculosis. According to the inspector, certain parts had been stripped to conceal evidence of disease. When challenged, Roberts said he thought the meat had been passed by an inspector, but Mr. Ashford declared that that was impossible, as even a layman could see at once that the meat was positively unfit for use as food.

The defendant did not give evidence, and called no witnesses. He said that he was under the impression that it had been passed.

The Chairman of the Bench (Mr. F. Walmsley) said they must make an example of the defendant, who had exposed the public to the serious risk of wholesale poisoning.—*Manchester Guardian.*

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Lamb Dysentery.

To the Editor of The Veterinary Record.

Sir,—I have read Mr. Bosworth's letter in your issue of June 6th on the above subject with interest. Along with his letter you publish a cutting from the *Newcastle Daily Journal* which he has sent you. This journal had found it necessary to abbreviate what I sent them, and, in so doing, deleted some essential points.

Since you have published what is an incomplete account of what I intended to convey for the information of the farmers in the lay press, I would ask you now to publish the complete account (sent herewith) as it appeared in the *Scottish Farmer.**

I am not sure what the object of Mr. Bosworth's letter is. He is inclined to be critical, with comparatively little experience of lamb dysentery, and nothing definite to offer in the way of experimental data to support his suggestion that lambs are only infected with dysentery in the uterus of the ewe. Perhaps he will inform me who the "competent observers" are who found lamb dysentery ulcers in the intestines of still-born lambs. Is this merely a reference to a vague rumour prevalent in Northumberland? I was definitely told by the farmer where the observation was made, that *one observer* believes he found lesions of dysentery (ulcers?) in lambs which he took from ewes *found dead* of another disease. An observation such as this would be very much open to question.

If instances have been found of lambs being born alive and dead with intestinal ulcers, it is probably only very exceptional, since our experimental work here clearly shows that pregnant ewes removed from infected pastures, washed or dipped, and lambed on clean ground do not take the disease away with them. Indeed, by this means every lamb may be saved.

Mr. Bosworth has evidently been making enquiries with regard to the success of the hygienic measures I have recommended to farmers. This he is quite entitled to do, but the results of his enquiries show that his experience has not been "more than local," to use his own words.

I would, however, question Mr. Bosworth's good taste in going into print with a statement that my anti-serum for lamb dysentery has been a failure, before I myself have had a chance to place the results of the present extensive field experiments at prevention, upon record.

I sincerely hope Mr. Bosworth and other research workers of the Cambridge Institute who have recently taken up the study of lamb dysentery will in course of time be able to offer something helpful to the efforts to get rid of this terrible scourge.—I am, etc., S. H. Gaiger.

Animal Diseases Research Association,
83 Buccleuch Street, Glasgow,
June 6th, 1925.

* * * *

*The article in the *Scottish Farmer* to which reference is made by our correspondent, was as follows:—

Lamb Dysentery in 1925.

By S. H. Gaiger, F.R.C.V.S.

Dysentery is as rife amongst the lambs this year as ever it was, and on many farms the losses have been serious, about one-third of the lamb crop having been lost. The problem seems to be largely one of farm sanitation, and not until farmers appreciate this more fully will the disease be got under control.

In the booklet upon this disease published by the Animal Diseases Research Association the nature of the trouble is fully brought to light. It was in the research laboratory of this Association that the causal organism was discovered and the disease shown to be due to soil bacteria. The primary causal germ is a virulent strain of the *Bacillus coli* which sets up a catarrhal condition of the young lamb's bowel and allows other common soil bacteria to penetrate the delicate intestinal wall and cause ulceration. The whole system of the lamb becomes invaded by these bacteria and death quickly ensues.

Further research work has brought to light many curious fallacies in the beliefs held by farmers as to the manner of infection of the lamb. Many farmers consider infection reaches the lamb in the milk of the ewe, but this is now known to be erroneous. Doubtless farmers got this idea from finding how frequently a twinned-on lamb succumbs to the disease. This is explainable, however, in another way than infection through the ewe's milk. It is a common practice in twinning a lamb to make use of the skin of the dead lamb to deceive the ewe into thinking the new lamb is her own. Covering a healthy lamb with a skin smothered in the excrement of the dead lamb is more than enough to convey infection, if the lamb is under one week old.

Another curious fallacy which has been finally dispelled is one readily accepted by farmers, namely, that the lamb is born infected. This mistaken belief was dispelled in several ways.

Firstly, pregnant ewes which had lost their lambs for one or two years in succession from dysentery and which in the ordinary course of events would have been expected to lose their lambs again, were killed and their wombs examined bacteriologically. This was done in many different parts of the country and in all cases with the same result, namely, that infection was found not to be present in the womb of the ewes.

Secondly, it was found that a whole flock of ewes could be dipped close to lambing time or failing dipping could have their udders and hind quarters washed in disinfectant, then could be moved to lamb upon clean ground without the loss of a single lamb. This clearly showed the lambs were born uninfected, and that the flock, which hitherto had suffered heavy annual losses of lambs, had left infection behind them on their own pasture.

Thirdly, it was found that a piece of infected pasture could be railed off for a year and then pregnant ewes from far outside the dysentery districts placed on the railed-off land without coming into contact with any sheep stock on the place. The lambs of these imported clean ewes died of dysentery. They could not have picked up the

disease from their clean mothers, but must have got it from the infected soil.

Taking these facts together there is room for only one conclusion, namely, that lambs born on infected farms are born free of the disease but pick it up immediately after birth either from direct contact with the infected pasture or from the soil-contaminated udder of the ewe.

Farmers are a little inclined to accept the theory of infection before birth because they find some lambs dying inside 12 to 24 hours, but in reality that period of time is ample for the entrance of bacteria by the mouth, and for a fatal termination to ensue.

Some farmers hold to the belief that the method of infection is through the navel, but research workers have found that this theory has nothing to support it.

In the A.D.R.A. laboratory the question of prevention of the disease has been very carefully studied. Great emphasis has been laid upon the need of early recognition of the first cases occurring upon a clean farm so that drastic measures such as are urged in the pamphlet may be taken. It is folly to conceal the disease as so many do for five or six years till the farm is saturated with infection and then loudly call for scientists to help. No farmer in the Border counties can afford to neglect making himself acquainted through the literature with the characteristic symptoms. Far better to send any lamb about which he is in doubt to the laboratory for an accurate diagnosis.

Unfortunately dysentery was in existence for a long time before scientific research was carried out to throw light upon it. There are farms where dysentery has been present in an endemic form for over a hundred years. The disastrous outbreak of the last fifteen or more years doubtless originated from these farms and is something quite exceptional. None can tell at present when the wave of infection will begin to die down. It seems to take about fifteen years for the disease to die a natural death on any one farm; that is to say, for the stock and their descendants to acquire an immunity. One of the gravest features of the present outbreaks is their tendency to spread to clean farms.

For those who are already deeply involved with the disease, research workers are endeavouring to do something to minimise the great loss of lambs. Flockmasters cannot do better than put into force the strict sanitation measures recommended in the pamphlet. Experiments are being continued at artificial immunisation by means of serum and vaccine. Vaccination of the pregnant ewe with the idea of giving the fœtus some immunity so that the lamb, which is now known to be born healthy, may be born with a certain amount of immunity, has been tried without success. It is only a scarcely detectable immunity which can be conveyed to the unborn lamb by inoculating the ewe, and this feeble immunity is insufficient to protect against a natural attack of the disease. It was, therefore, no surprise to find that ewe inoculation failed. At best it was like the straw the drowning man clutched at.

Inoculation of new-born lambs with serum is being pursued as a more hopeful line of investigation. For this reason an anti-serum has been prepared against the three principal bacteria which kill the lambs, namely, the *bacillus coli*, the *vibrion septique* and the *bacillus welchii*. This triple serum is more likely than anything else which has previously been used to save the lives of a proportion of the lambs. No serum, or indeed any laboratory product, need ever be expected to act miraculously and save them all. The triple serum is being tried over an extensive area of country in the South of Scotland and the North of England. If these experiements should show that a proportion of lives can be saved by a laboratory product it does not justify the farmer in neglecting to do any part of the recommended sanitary measures. No lambs need ever be expected to live on farms which have infection thrust upon them in the way one sees this done.

This year again, research officers of the Association have been touring wide areas of country gathering further information and material for investigation, and giving helpful advice as to the manner of inoculating. Lamb dysentery is now thoroughly understood. The day is past when farmers need refer to it as "the mysterious lamb disease." What is urgently needed now is the better education of the farmer concerning the facts of the disease which years of research have brought to light.

It will interest farmers to know that several flockmasters whose farms were badly infected, adopted the sanitary measures which have been recommended and have now reported that they no longer have any dread of the disease since the number of cases has been reduced to a negligible quantity. It is worth the expenditure of a little money for extra help, and worth the abandonment of dangerous, if cherished, customs on the farms, if large numbers of lambs are thereby saved.

The Exportation of Horses.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—The corroboration of facts by unbiassed persons as supplied by Mr. Fairholme is *very weak*—(The italics are mine)—He quotes *one man*, to wit the special correspondent of *The Manchester Guardian* and then goes on to state that the R.S.P.C.A. published *his account* as "corroboration of facts by unbiassed *persons*." I am a pretty frequent reader of *The Manchester Guardian* but I never see any advocacy of the £20 tax proposed to be put on each horse exported. The use of the word *pander* in Mr. Fairholme's concluding sentence, shows lack of appreciation of evidence. To pander is "to act as an agent for the gratification of the passions." How can this term be *fairly* applied to the horse exportation trade ?

Mr. Fairholme's reference to the abolition of slavery is equally unfortunate—The unfairness of the comparison is obvious to all reasonable men. Slavery was abolished by Act of Parliament, but Parliament was not silly and foolish enough to follow it up by trying *to restrict the movement* of all the people who had previously been in bondage.

I am afraid Mr. Fairholme will really have to produce more of that evidence *of others unconnected with* him and his rich society, and which he says he has, than he has hitherto done, before he will make much of an impression on the knowledgeable people, or even on the man in the street.—Yours faithfully, G. MAYALL.

Bolton.

Horse Transport Superiority.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I was agreeably and interestedly surprised at the facts disclosed in the article appearing under above heading in the *Veterinary Record*, of June 6th, and more so at the evident possibilities of making still greater the existing superiority of horse transport, not only on the information supplied, but also in view of other favourably existing factors which have not been brought into consideration.

Referring to the figures showing cost per load, in the case of the horse drawn, to be only half that in the case of the electric vehicle, and at the same time considering that the best type of horse is purchased at an outside price, and that the lowest possible minimum costing price is obtained, there is a considerable margin for reduction in outlay and depreciation costs, resulting in further reduction in price per horse-drawn load. The productiveness of the horse also in manurial value at 10s. per ton, 12 tons per horse per annum, has been disregarded, and shows the actual purchasing price of one horse to be the annual manurial value of sixteen others. As the life of a horse under the conditions is put at eight years, the stud might at the end of that time show an increase of eight, or the equivalent purchasing price. Even with the abnormally high death rate of one per year, the stud would be maintaining its own depreciation on that account.

The repairs to cart at £15 per annum are estimated on the most extravagant scale, so much so, as to lead one to infer that an error of £10 has been made.

One is not losing sight of the difference in sight of loads, resulting from the 2 cubic yards difference in waggon space between the horse-drawn and electric vehicle—the

result is consequent on the fact—but does not alter the ability and capacity of the horse to deliver an equal load tonnage per day, given the waggon space, amply provided for in the £15 estimate.—JAS. CONNER, Captain, M.R.C.V.S.
June 11th, 1925.

Milk Fever—New Theory and Treatment.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I am very much interested by Mr. W. Peirson's article in your issue of 6th instant, particularly so, as reference is wisely confined to the **atypical** simple milk fever case, which permits of a more **reasoned** resumé of the various theories and practices regarding this causally obscure condition. Personally, I have not previously considered the induction theories seriously, and have been satisfied that the simple condition has been practically one, mechanically associated with variation in distribution of the blood supply. The results obtained by the intra-mammary injection either of liquids or gases, are conversely satisfactory according to the varying degree in which they allow or bring about, by regulated distension of the gland, the engorgement of the collapsed and almost empty blood vessels therein. The physiological changes quoted from Bainbridge and Menzies are scientifically correct, and are directly resultant from the prevailing vascular condition, and justify the definition ultimately as one of progressive auto-asphyxiation. For the consideration of those favourably placed in the matter of adopting their practice to the re-oxygenation of the blood, I would suggest the probability of astonishingly successful results from the administration of the gas direct by inhalation and possibly intra-tracheally.

I submit the practical desirability of this probable confirmatory proof of Mr. Peirson's theory and congratulate him accordingly.—JAS. CONNER, Captain, M.R.C.V.S.
June 11th, 1925.

The Annual Meeting of the R.C.V.S.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Your Editorial on the above is more than ordinarily scathing. I venture to doubt the wisdom of editorially publishing such personalities in what is the official press organ of the National Veterinary Medical Association, which is read not only by members of our own profession, but by the general public and also appears in certain libraries and public places. It may even reach our Honorary Associates themselves, and one wonders what Earl Haig will think of his new colleagues. Surely the proper place in which to draw attention to the absence from his place of the other Vice-President, the re-arrangement of the officials for the complimentary ceremony, the want of places at the top table for the College officials, and all the other grumbles, is in the Council Chamber itself—especially as you, Mr. Editor, are a member of that assembly. Possibly, however, as most of those personally alluded to are brother members with you of that honourable body, this question will be one which they will not allow to pass by without asking for some explanation.—Yours faithfully, FREDERICK HOBDAY.
165 Church Street,
Kensington, W.
June 16th, 1925.

The Editor acknowledges the receipt of the following: Communications from Messrs. F. Bullock, C. R. A. Powell, J. McCann and Professor B. Gorton.

National Veterinary Medical Association of Great Britain and Ireland, Limited.
EDITORIAL OFFICE: 10 Gray's Inn Square, London W.C.1.
Cheques should be made payable and all communications sent to the General Secretary at the Offices of the Association, 10 Gray's Inn Square, London, W.C.1.

National Veterinary Medical Association.

THE
ANNUAL CONGRESS
WILL BE HELD AT
CAMBRIDGE,
AUGUST 17th to 22nd, INCLUSIVE.

Members are advised to secure accommodation at once by applying to the Local Secretary, Col. W. A. Wood, School of Agriculture, Cambridge.

Firms desiring places in the Drug and Instrument Exhibition should apply for terms, etc., to the Local Secretary at Cambridge, as above, by whom all arrangements will be made.

Advertisers who wish to take space in the Advertisement Pages of the Congress Handbook should apply without delay to the Assistant Secretary, N.V.M.A., 10 Gray's Inn Square, W.C.1.

LIVER FLUKE

INFALLIBLY CURED AT ALL STAGES.

THE MINISTRY OF AGRICULTURE

ASCRIBE TO

DANISTOL

(Professor Marek's derivative of Male Fern)

EFFICACY 100% EFFICACY

YOUR ANIMALS CAN ALL BE SAVED AND RESTORED TO PERFECT HEALTH.

SUPPLIED THROUGH VETERINARY SURGEONS by

THE CROWN CHEMICAL CO. LTD. (Dept. No. 9)

52 CRUTCHED FRIARS, LONDON, E.C.3. Telegrams: Tigress Fenn, London

WARNING. Ordinary Male Fern Extract is a most Unreliable Drug, the use of which, in cases of Liver Fluke, had to be abandoned. The wonderful success of Prof. Marek's derivative (Danistol) has induced the re-introduction of ordinary Male Fern.*

*Ref'ces.: Prof. Lander in "Veterinary Toxicology," Prof. Froliner, Neumann's "Parasites of Animals," Prof. Cave in the "Agricultural Gazette," 7th November, 1924, also the Veterinary Adviser to the "Farm and Stockbreeder," in the issue of October 27th, 1924.

GENERAL ACCIDENT

FIRE AND LIFE

ASSURANCE CORPORATION LIMITED

PERTH, SCOTLAND & ALDWYCH, LONDON, W.C.2.

Pioneers for Live Stock Insurance.

Farm Horses.	Bloodstock.	Pedigree and Commercia Cattle.
In-foal Mares and Foals.	Hunters.	Marine Transit to all Parts.
Stallions.	Show Transit.	

LIBERAL TERMS to the VETERINARY PROFESSION

HYPODERMIC NEEDLES.

Specially made for Veterinary use, to fit Record Syringes.
A stouter needle than those usually supplied.

Size 1.	18mm.	long × 1·0mm.	diam.	(11/16" × 1/25")
Size 2.	20	,, 1·2	,,	(11/16" × 1/20")
Size 3.	25	,, 1·5	,,	(1" × 1/16")

Price 3/- dozen. Carriage Paid.

Tel.: Royal 995. K. A. FULTON, Laboratory Furnisher, Scientific Instrument Maker,
161 BROWNLOW HILL, LIVERPOOL.

The "WRIGHT" Dog Foods

ARE YOU FEEDING YOUR DOGS THE (W)RIGHT WAY?

A dog's condition depends upon his food! No one would deny this, and yet it is strange that comparatively few give correct feeding the attention it deserves.

We have specialised for over seventy years in the manufacture of a wide range of Dog Foods suitable for all breeds, and our products are the result of scientific investigation and research in to the needs and requirements of the Canine organism.

Your dog would like to try The "Wright" Dog Foods. Why refuse them?

Ask for free samples, price lists, etc., to-day!

WRIGHT & CO.
(LIVERPOOL) LTD. EST. 1840.
VULCAN ST. MILLS, LIVERPOOL.